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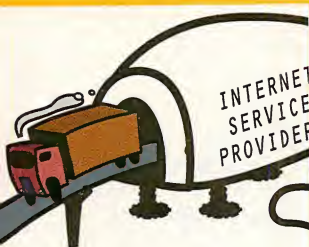
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Rollin', rollin', rollin',
keep that data movin'.

MARCH 1997

Mac ADDICT 7

highlights

34 Hopping Online

You've heard about this Internet thing, and you're curious. But you're also intimidated by the new-fangled jargon. Here's everything you need to know to get connected without a glitch.

BY DAVID REYNOLDS

40 Now That You're Wired...

Getting connected is only the start of your Internet journey. Now it's time to set up browsers and e-mail software, and figure out what's up with newsgroups, and... Eek! Use our detailed guide to set up your system flawlessly.

BY JOSEPH O. HOLMES

52 Teach Your Old Modem New Tricks

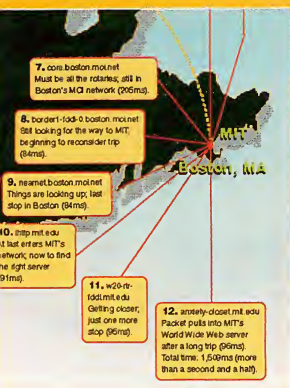
Better than stupid printer tricks. Make your modem be quiet, dial numbers reliably, and perform other little-known tricks.

BY KEVIN M. SAVETZ

58 This Old Mac

Part Two in our series on how to squeeze more use out of older Macs. This month we revamp the SE/30.

BY T. KELLEY BOYLAN



San Francisco to Boston in 1,509 milliseconds! What's with all the traffic?



We don't think this is *exactly* what it means to be a multitasking modem.

how to

88 Use AppleScript

Everyone in Hollywood has a script. Our tutorial will show you how to make an AppleScript for your Mac that will actually see production.

BY KATHY TAFEL

94 Make a Custom Palette

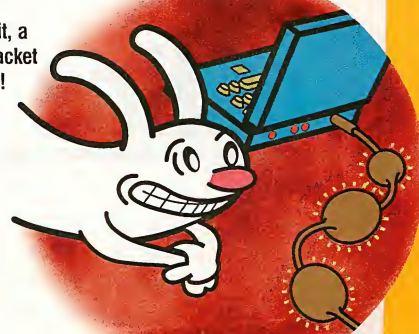
Well, shoot. Mac and PC browsers can display only 216 colors correctly. Use DeBabelizer to set up a custom 216-color palette and then convert numerous Web graphics to it at once.



There's life left in that old SE/30 yet. Find out what you can do to keep this Mac alive and kicking.

Cover image produced by Tom White, the proud new father of twin Radius 81/110 computers.

Silly Wabbit, a watched packet never boils!



The girl with the
faraway eyes...
She's a Borg! Oh, no!



every month

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Wit and humor on the same page each and every month.

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Yo! Here's your source for more than 30 online utilities. Plus check out our usual assortment of hot shareware, System software, and working demos. For your older Mac, some blanc et noir games. Don't forget to click around—find the hot spot and enter to win Klondike Gold.

online

<http://www.macaddict.com>

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Now that the new and improved MacAddict Web site is more than just a gleam in our eye and a scribble on a napkin (or two), we take you on a quick tour. We show you where to find the latest news, how the sections are organized, and what on earth the just-added Clubhouse holds.

Mac ADDICT

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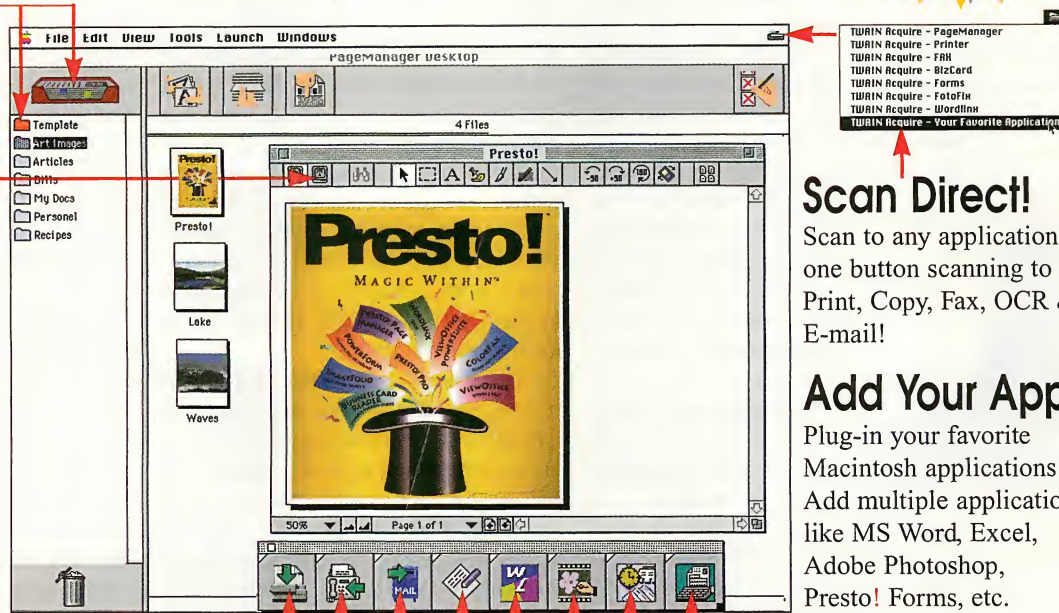
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editor's note

Your next Mac OS might just be the NextStep OS. Is that a good thing?

It has been a year since Gil Amelio took the helm of Apple Computer, bound and determined to turn around the troubled company. During that year, Amelio has returned Apple to profitability, reorganized, hired new top managers, and above all, closed 1996 with one of those big bangs that is literally heard around the world—he bought Next, the company run by Apple

co-founder Steve Jobs. In the deal, he got the NextStep operating system, the company's employees (including several very talented engineers), and, of course, Steve Jobs.

Well, hallelujah! Actually, I wish I *could* be that happy about the acquisition. Instead, I'm optimistic.

There's a lot that's good about this deal. Apple was critically late with System 8, the version of System software that was slated to introduce important technological changes. Now, with the acquisition of NextStep, Ellen Hancock, Apple's chief technology officer, estimates that the company will be able to produce a merged Mac OS/NextStep system that incorporates many critical technologies sometime in 1997 (we'd bet that means late 1997).

With NextStep, Apple gains much of the technology it was trying to develop in-house. Key among those technologies is virtual memory that works, pre-emptive multitasking, and protected memory. With pre-emptive multitasking, the System will let you do two or more things at once—for example, play a QuickTime movie while printing—and neither operation will slow down noticeably. With protected memory, your Mac should crash far less often, even if you *do* install Microsoft Office, Netscape Navigator,

and Now Utilities.

In addition, other NextStep advantages (such as support for Java and an object-oriented development environment) are being touted as excellent tools to get corporations more aligned with the Mac. Indeed, NextStep's greatest success is in the corporate arena, particularly within financial services companies. Java will enable intranets, and objects will allow corporations to easily create custom applications. These benefits may be enough to allow Apple to, worst case, hold on to the corporate accounts that it does have or, best case, actually become a viable force in corporations.

What worries me, however, is that it is unclear how much of a Mac addict Hancock, a 28-year veteran of IBM, is—or can learn to be. For example, in a press conference late last year, Hancock would not commit to supporting either QuickDraw or QuickTime in this new system. NextStep uses Display PostScript to show images onscreen, unlike the Mac's QuickDraw standard. While Display PostScript is a more widely accepted standard than is QuickDraw, it can be a slow, bulky resource hog.

Then, of course, there's the compatibility issue—an issue that's central in determining Apple's success with its OS strategy. According to Hancock, the first version of the new OS will run on all currently shipping Macs. But is there a Pentium in the Mac's future? After all, that's what NextStep runs on. No one at Apple has said.

Note, however, that just because the new OS will run on newer model Macs doesn't mean your applications will run on the new OS. No currently shipping applications will run on the first version of the Mac OS/NextStep system. True backward compatibility likely won't happen until 1998—and if Apple doesn't ensure that current applications can run on the new system soon after its introduction, well, the company is basically shooting the Mac in the head.

But wait! Apple has Steve Jobs, doesn't it? And he reports directly to Gil

Amelio, just as Hancock does, doesn't he? The Mac will still be the Mac, only better, right?

How much Jobs will influence the direction of the Mac OS is unclear. Next was struggling when Jobs decided to sell. Without the \$400 million deal, Jobs would have taken Next public in order to raise money. This ain't charity work for Jobs.

And Amelio is in no hurry to make a big deal out of Jobs' return. In fact, it has been made very clear that Jobs is only a part-time consultant, not a full-time employee, nor in any way is he heading up technology and development. Why? The simple fact that if Wall Street thought for one minute that Jobs was back in full force at Apple, Apple's stock would plummet. Wall Street doesn't like visionaries—it likes managers.

What's going to happen? Hopefully, Hancock and Amelio will be smart enough to use what's good in NextStep while maintaining backward compatibility with current Mac applications and keeping a Mac-like interface and some of the proven technologies, such as QuickTime, that have kept Apple strong. Hopefully, Amelio will remain focused on smart results, and not be distracted by minor technologies or issues. One thing we'll say for sure, though, Amelio sure knows how to start a new year. We'll attend his parties any time.

—Cheryl England

Without the \$400 million deal, Steve Jobs would have taken Next public. This ain't charity work for him.

Extra Macs? Nah, sorry

We get lots of letters from readers asking if we can donate Macs to their causes, or if we can send them one of the Macs we've tested, or one that we have "lying around." Well, heck, we hate to disappoint you, but we don't have a stockroom full of PowerPC-based Macs wasting away. Just like any other company in the world, we had to buy the Macs that we use to work on. The other machines have been sent to us by Apple, or Power Computing, or whoever on short-term loan. That means we have to send them back once we are finished testing them. We'd love to have a bunch of Macs sitting around to give away, but, alas, they all must go back from whence they came!

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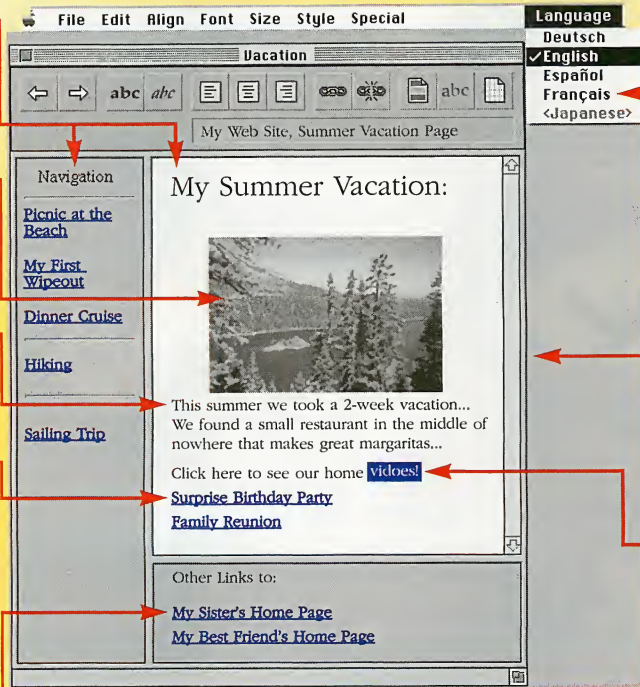
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letters

Other folks might say, "get a life." But we love the time you spend with us.

This Month

Reading the mail is now among our favorite things to do. We love your stories, your comments, your jokes. We only wish we had more space to run all of your responses. We also love the marriage proposals and will gladly accept indulgent praise and sensitive criticism. Write to us at: MacDudes, MacAddict, 150 North Hill Drive, Brisbane, CA 94005, or send e-mail to <letters@macaddict.com>. For CD-ROM or subscription queries, please call our customer service department at 415-468-4869.



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TALK TO ME, BABY

Sometimes I talk to my Mac.

—BEN KANTOR



incredibly inopportune and embarrassing moments. And it goes without saying that your more unscrupulous readers will be sticking them brazenly into their CD-ROM drives with a casual flick of the wrist.

Please, please, PLEASE... get some control over your sleeve manufacturer. Get out your calipers and micrometers, and

let's get these tolerances down tighter! After all, if we REALLY want to see what's on the CD, we ought to have TO WORK FOR IT, to prove we're worthy... —SHAWN

"RUSTYBEAR" SMITH

Hey, watch it or we'll glue the CDs in next time.

You Again?

Last I left you, I told you that I had been sent back to the streets due to my incompatibility with the office/PC geek environment, so here's something that happened today. As I was sitting down to eat my lunch (a healthy serving of the four food groups: burgers, fries, milkshake, and cookies), I was set upon by a gaggle...now there's a strange word, gaggle...gagglegagglegaggle...er, sorry. So I was set upon by a gaggle of PC Vampire/Zombies who commenced to try to hypnotize me by spewing forth vile PC data as to why the PC is better than the Mac. (Obviously, their zombie-ism has destroyed all common sense, along with good fashion sense.) Luckily, I always carry a copy of "MacAddict," which I quickly rolled into a cylindrical weapon and began to swat away at these creatures, while simultaneously chanting, "LEAPPAY ACMAY ESRULAY," as I was taught by an ancient band of Mac monks while traveling through Asia, but that's another lie...er...story. So I'm beating away at these creatures as I'm heading toward my Mac Mobile (actually, it's just my bike, but the story sounds better if I say Mac Mobile), knocking them down left and right, leaving

RECENTLY SIGHTED



Hey, Jer—I need your Mac.

As seen on TV... Kenny Kramer, the real-life inspiration for the wacky Cosmo Kramer on "Seinfeld," sports a Power Mac of his own. When he's not making grand entrances, Kenny can be spotted giving tours of New York sites featured in the Thursday night sitcom. Let's hope he has better luck with electrical gadgets than does his television persona. (We always knew that the Mac was the best window to the soul of humor.)

Oh no.... Help me. I think I'm slowly becoming an addict....

I usually work on my Mac in preparation for the next day's activities. However, a few days ago, I started up my machine and just played around...opening windows...closing windows...opening.... I also spent time shuffling folders around, using "Get Info" to see how much memory each application was using, and perusing file after file.... What did I accomplish? Well, technically nothing.... OK...I admit it...gosh darn it. I just enjoy my machine. How many Windows users can honestly say they enjoy their machines enough to conduct the activities noted above? —MARTIN SARKAR

BOY, WE BLEW IT

There MUST be some mistake! I was able to "remove" this month's CD-ROM from its sleeve—WITHOUT TEARING THE CARDBOARD!

This has GOT to stop! If such "looseness" continues, why, CDs will be slipping out at

the Mark of Apple on their ugly yuppie faces ...actually, this is where the story ends, since this is when building security asked me to quit swatting at the yuppies that were having lunch and told me that I would be forcibly removed if I didn't settle down.

As always, Apple rules, PC stands for Pathetic Computer, and IBM stands for It Bites My... (you fill in the blank).

—REUBEN REYNOSO

WHAT? No!

Will you buy me a PowerTower Pro 225 and a PowerBook 1400? —PETER DE BLANC

By the way, I need my own Mac. Could you send me a 7600/132? Any dual-scan monitor will do. —CLAY ANDRES

I have a Performa 630CD, and I can't run any of the cool, phat graphics programs on it (or any of the cool, phat games). So I was wondering if, uh, maybe you guys could, like, give me, uh, that PowerTower Pro 225 that you tested (Jan/97, p64). —NICK ELPRIN (Mac-Boy), SAN FRANCISCO, CA

WE WON'T GIVE IN

I'm holding your mascot Max hostage, and unless you print this letter, I'll make him use my Dad's Windoze computer! Have A Nice Day.

—TERRORIST PATRICK

Patrick, we're a bit worried about you. Do your parents know you do this sort of thing?

MACDOGGY

What craziness is this? Since when are Mac owners cat lovers ("Letters," Nov/96)? I happen to know the IBM PC (and its clones) are the cat lovers' machine of choice! Mac owners are dog owners, as my master will tell you (I'm typing this for him, as he is a terrible speller). Dogs are by far smarter than cats. (Jeez, look at how that cat spelled "subscription" and I rest my case). —NICO DESTLER (GHOSTING FOR DAN DESTLER), RESEDA, CA
A quick poll of the "MacAddict" team shows that we have five people who favor dogs heavily, two who favor cats, three who adore both, and one (Mark Simmons) who prefers cuttlefish. We have no idea what this means.

EAT SOUP

Since I am a lonely guy, I need some good reading material during my lunch hour, and of course "MacAddict" is the perfect solution. However, I frequently need both

hands for my Roquefort cheeseburger or sushi, and must come up with innovative magazine placement techniques to make sure that the article I'm reading sits open and legible in front of me without getting splashed with ketchup or wasabi. Therefore, please follow these simple page-layout guidelines for lonely guys: In the first half of the magazine, print articles on right-hand pages, so I can fold the left-hand pages underneath the heavier bulk of the magazine. Conversely, in the second half, print articles on left-hand pages. This will ensure that I'll be able to immerse myself in "MacAddict" without having to anchor floating pages to the table with salt shakers, Snapple bottles, or stray mayonnaise packets. —J.S. PENNER, NEW YORK, NY

YOU LOVE US :-)

I just wanted to say how much I love your magazine. Every time I take an issue into the bathroom with me, I come out with a red ring imprinted around my butt. Keep up the great work! —CHRIS HAMILTON, MISSION VIEJO, CA

I really, really hate flies dancing around me. I ALWAYS grab a magazine or newspaper and chase the fly down and end its life. The other night I was reading "MacAddict" in bed when there was a fly buzzing around me. I had the urge to kill but couldn't stand the thought of rolling up this beautiful magazine I have learned to love so much. It was a good thing that I found a copy of the MacWarehouse catalog under my bed.... No way. No fly mess on this MacAddict's "MacAddict"! —HUNG P. TSAI, ARCATA, CA

YOU HATE US :-)

I had to make the big decision last January—Zip or EZ. I, too, was taken in by all the glitz and glamour that Iomega put out about its Zip drive. All the salesmen at the computer stores said Zip was king. They didn't even recognize the EZ drive's existence. Well, 11 months later I'm glad I didn't get sucked up into all the hype. I use my EZ drive every day as a second hard drive. And I can, thanks to the drive being twice as fast as the Zip, holding 35MB more per disk, and automatically mounting at startup. If you feel the need to buy something because everyone else has, and you only feel secure in buying a product that receives heavy advertising budgets, the Zip is your product. And for that matter, you probably have a PC anyway, so good luck. As for me, I'll stick with the sometimes overlooked but still better products: my

Pretty Darn Smart

TIPS FROM OUR AWESOME READERS

Here's a tip for cataloging the contents of the MacAddict discs:

Use the FindIt cataloging program (which is part of Iomega's Zip Utilities 4.3) to work around this dilemma. Go into your Preferences folder in your System Folder and locate a folder called FindIt's Library ∞. This folder contains a file for every volume that FindIt has cataloged. Tell FindIt to catalog a MacAddict disc. When it is done, look for The Disc's catalog file in the FindIt's Library ∞ folder and change its name from MacAddict to MacAddict Jan97 or whatever you like. The next time you look at your catalog, it will refer to that disc as MacAddict Jan97.

There is one drawback: When you are looking through your catalog for a disc and you want to launch a program from that disc, it will ask you to insert a disc called MacAddict Jan97. But when you put in the appropriate disc, your Mac will complain that you have not inserted the correct disc because the actual name of that disc is MacAddict, not MacAddict Jan97. Press the Cancel button to get back to normal. Now you know which disc to insert to launch the program you wanted. —DAVID REDMIN

Thanks also to George W. Craig of Dalton, GA, for the same tip.

In November 1996's "Ask Us" (p103), someone asked how to silence the startup and restart chime on the Mac. You suggested that he either disconnect the speaker or plug in a 3.5mm phone jack. Both of these solutions will work, but there is an even easier way. If you are running a Mac with an external monitor, all you have to do is turn off the monitor and then turn on your Mac. After a minute or so, you can turn your monitor back on. That is how I get around the problem with my Performa 6115CD. —MICHAEL BURGER

LISA HANSEN ADDS: I have a pair of headphones plugged into the speaker jack on my PowerMac 7200. I don't disturb my roommates when I play really loud games into the wee hours!

letters

Mac and my EZ drive. —BRETT THIESS
We acknowledge that the EZ drive has advantages over the Zip. But Syquest was late to market with the EZ and has, in the past, alienated customers by producing far too many products with far too many cartridge incompatibilities. The Zip was a breath of fresh air and earned our loyalty.

BILL, PLEASE

I wanna be just like Bill Gates. I want to rip off the Mac OS, call it my own, fill it full of bugs, and make sure everyone in the world has to buy it while I laugh at how stupid they are. —ADOLFO PAINCHAUD, QUEBEC, CANADA

SORRY, PAL

I have some questions that have been haunting me for years. First, why is there Braille on drive-up teller machines? Second, if a tree fell in the woods and it hit a mime, would the mime make a sound? Third, what

exactly is that stuff in Twinkies? Please help me. I haven't slept in three years. —DAN NORD

Nearly every installer hangs my beloved Duo 280. But if Cheryl England will bear my children, maybe we can work something out.... —CHRIS SMOLYK

DO WE KNOW YOU?

I am honored that you would like to do a multipage article on me in your next issue. If you need any information about my early years, feel free to contact me via e-mail. —BEN MAHLER

P.S. Have your people call my people and we'll eat my people. —CHRIS HOWARD, LEANDER, TX

CUT THAT OUT

As a stand-up comedian, I travel some 32 weeks a year, which means my PowerBook and I fly on many airplanes, which also means we pass through a lot of X-ray machines and metal detectors. In this age of particularly tight security, it is imperative that you watch what you say, especially when you are at this juncture of your air-travel day.

One early morning, a fellow comedian (and an even bigger Mac Head than I) and I were flying to a new city, and of course we had to go through the security area, and of course they asked us both to open our carry-on luggage and turn on our PowerBooks. Well, when I awoke mine, to my surprise, I had an error message. Not thinking, I said to my buddy, "I have a bomb!" To which he said, or shall I say repeated in an even louder voice, "You what? You have a bomb!" Now I'm not sure if the security guy was a PC guy, let alone a computer guy. Let's just say there was a little extra explaining to do that particular morning. —GARY BRIGHTWELL
Who do you guys think you are? A couple of comedians or something?

BLOODY MESSES

I have a story for you. 'Kay, this can't really compare to blowing hot coffee out your nose, but, well, 'kay, I'm sitting in bed, reading your December issue, with a loose tooth. So I'm kinda jiggling it with my tongue. I start reading those awards, and I get to the sound award. I get to the second runner-up. Nothing unusual about it, or so it

seems.... I begin reading, "We've secretly replaced Bob's Macintosh with Windows 95." I laugh a little. I get to Bob's response, "What the hell is this crap?" I BURST out laughing. While reading, I had been playing with my tooth. BAM! My tooth goes CRUNCH, and I've got a mouth full of blood and a tooth that's not attached to anything in my mouth. THE PAIN!! I'd sue you if this wasn't such a great mag. —SNAFU

I am so poor that I donated plasma to get enough money to start a subscription with you guys. —NICHOLAS SKY HOPKINS

SERIOUS STUFF

Are we going to see the rest of WindowsWorld (The Disc, Nov/96)? —STEVEN CLAFINE

Raf Anzovin, the 14-year-old genius who created WindowsWorld, has been a bit busy lately, what with his college 3D class, his writing contributions for us, school, the holidays, and, oh yes, being a kid. But we hope he'll have time to create more animations for The Disc soon!

In the November 1996 issue ("Harmony," p27), you write, "First comes a fall release of System 7.5.4, which brings improved performance and reliability." But System 7.5.5 has been available for several weeks now. What gives? —NATE LOONTJER
It was August when we wrote the article. At that time, Apple had not committed to an exact release date for the new system and the company was still calling it System 7.5.4. By the time you read the November issue, the new System had been released and renamed System 7.5.5. Be sure to check our Web site for updates to articles.

For the longest time, I couldn't get the 1984 commercial by Apple. I think it would be a good file to distribute to your subscribers. You can find it at <ftp://emedia.apple.com/pub/>. I would of course get permission to distribute it first! —CURTIS JONES
Well, heck, Curtis. That's the problem. We don't yet have permission from Apple to distribute it. Seems there are all sorts of actors' fees and other odd stuff involved. We're still working on it, though.

OH SHOOT!

In your "Sex Sells" list (Dec/96, p6), you state that Logomotion is made by Strata. When I read this, I literally had a heart attack (I'm only 14)! Logomotion is made by the awesome guys at Specular International, not Strata! —MARTIN PATAIL
"He's right, Martha. How'd that happen?"
"I don't have a ding dang clue, Henry."

In the December 1996 "Ask Us" (p106), someone asked if a Mac IIsi could be used as an external hard drive. Mr. Linzmayer said no. But if you connect it to another Mac using a serial cable and turn on File Sharing, you have your external drive right there. —CHARLES WYATT
(Note: You'll get LocalTalk speeds while using the hard drive.)



On the January Disc, we published some Christmas icons without fully crediting the designer, Mary Lee Seward. Mary Lee wrote in to tell us more about herself: "I am 72 years old. I hadn't touched a computer until several years ago when I brought one home...from Sears, no less! I have been dabbling in art all my life, and the icon creations just came naturally. I love to do them. I have four grown sons, who live all over the country and the world! We are all online, including several grandchildren. My Mac has opened up a whole new world for me."

A rose is a rose is a... wait a second.



Kodak DC-40 Digital Camera



Casio QV30 Digital Camera



EPSON PhotoPC 500 Digital Camera

\$499



THE NEW EPSON® PHOTOPC™ 500 DIGITAL CAMERA WITH SUPERIOR IMAGE QUALITY. Roses are red, violets are blue, but only if you take their picture with the EPSON PhotoPC 500. The digital camera with 640 x 480 pixel resolution that gives you the most lifelike pictures around. It's got all the

convenience of a regular camera, from its built-in red-eye

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reduction flash to its optional lenses and filters. But

processing and ClearOptics™ system, for accurate, vivid

The PhotoPC 500 is flexible, too. With an optional LCD



YOU'VE GOT TO SEE IT IN **EPSON** COLOR.™

RITZ CAMERA CENTERS



Street price may vary. Rose photos were taken with the Kodak DC-40, Casio QV30 and EPSON PhotoPC 500 as configured for retail sale. No special effects or lenses were used. Awards given to the EPSON PhotoPC, the first in the line of Epson color digital cameras. EPSON is a registered trademark of Seiko Epson Corp. ColorTrue and ClearOptics are trademarks of Epson America, Inc. All other trademarks are the property of their respective owners. © 1996 Epson America, Inc.





the disc

Premium—this month's super-phat disc contains less than eight percent fat.



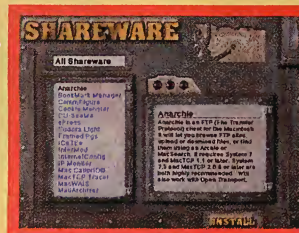
DEMOS

Take a tour through Step On It!, Over the Reich, Stay Tooned, and Zone Raiders! We provide links to vendor Web sites, too.



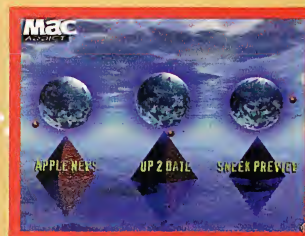
THIS ISSUE

Jump to this screen to find programs and files mentioned in the magazine. Whenever you see a disc icon in print, you'll know to come here on the CD.



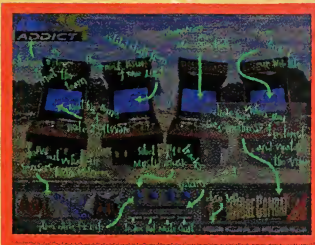
SHAREWARE

Here you'll find enough shareware and freeware to satisfy even the most demanding hard disk's appetite. Come here to turn your machine into a big Mac!



LIVE WIRE

Your special connection to the MacAddict Web site.



HELP ME

This helpful screen is available on all five major screens. All controls are carefully explained.



INDEX

Use this handy jumping point to get to any other screen on The Disc.

More and more renovation is under way behind the scenes. This month we offer improvements in the Shareware section and promise an even better feature next month. (We'd tell you what it is now, but then we'd have to kill you.) In any case, this month's disc offers more connectivity tools than you could ever possibly need, as well as plenty of games for older Macs. —Kathy Tafel



GETTING STARTED



1. Pop The Disc into your CD-ROM drive.
2. Double-click the Start Here icon for your System.
3. Have fun!

REQUIREMENTS

Any Mac can access the shareware, demos, and System software from the Finder. Accessing the full CD-ROM interface requires 12MB of real RAM with System 7.1 or earlier; 16MB of real RAM with System 7.5 or later.

OUR DISC SPONSORS

To find immediate information from our sponsors, go to the Index (Option-click on any help screen). Or you can wait until you see a message from a sponsor in the lower-right-hand corner of the main screen. Clicking on the message causes a TV screen to slide down from the top of the page, showcasing more information. Sponsors can also be accessed from the main window in the Finder.

AOL



800-827-6364

<http://www.aol.com>

America Online offers access to the world of online news and information, interactive magazines, finance, entertainment, e-mail, free software, shopping, and more. With a point and a click, you can explore the vast resources of the Internet. Sign on and receive 15 free hours.

Bungie—Marathon Infinity



800-295-0060

<http://www.bungie.com>

Marathon Infinity contains Blood Tides of Lh'owon, a brand-new, 30-level scenario; Forge, Bungie's own powerful Map Editor; and Anvil, a single tool for easy modification of shapes, sounds, and physics models.

Earthlink—TotalAccess



800-395-8425

<http://www.earthlink.net>

TotalAccess is Earthlink's complete software and Internet connection package. It includes Netscape Navigator, an award-winning Internet access software, and everything needed to register for complete Internet access in fewer than five minutes. After the \$25 setup fee, unlimited access is provided for \$19.95 per month. 'Round-the-clock tech support is provided via an 800 number.

Europa Software—Web Quick



<http://www.europasoftware.com>

Frustrated by Bookmarks? Web Quick tracks every page you visit and automatically orga-

nizes them by site. It lets you create custom Topics and keeps them all at your fingertips with handy pop-up menus. Web Quick even converts existing Bookmarks. No wonder "MacWEEK" called it "the first Web utility that is essential!"

MacSoft—Prime Target



800-229-2714

A powerful senator it brutally murdered while working late in her Washington, D.C., office. Now you must solve the mystery of her death in this action-packed, 3D shoot-'em-up. Prime Target thrusts you into the most dynamic Mac gaming world ever. Blood spatters on the wall. Glass shatters in your face. And the interactive mystery challenges your intellect as you hunt the senator's killers in Washington's corridors of power.

Sonic Desktop Solutions—SmartSound™ For Multimedia



800-454-1900

<http://www.sonicdesktop.com>

Now you can quickly create music or sound effects customized to your exact specifications. This revolutionary new software makes the job easy while always giving you professional results. Try the demo on the enclosed CD and you'll see why SmartSound™ is the Absolute Easiest Way To Create Customized Professional Quality Soundtracks.

UMAX—SuperMac S900



888-232-UMAX;

<http://www.supermac.com>

The SuperMac S900 system was specifically designed with high-end functionality to meet the needs of creative design and production professionals. We kept all the best things you like—the familiarity and ease of use of the Mac OS and compatibility with all your favorite software. And we wrapped it all up with the raw power of a 604 PCI-based design and delivered it at a price that can't be beat. Many unique features of the new S900 were designed to eliminate performance bottlenecks that have long troubled the market.

CONTEST

Win!Win!Win!

Prove you're a gold digger to win Klondike Gold!

Dastardly Tom Hale scrambled a poor bunny into 16 pieces! The nerve of some people. Help put the bunny back together again. When you pop in the CD-ROM, look for a

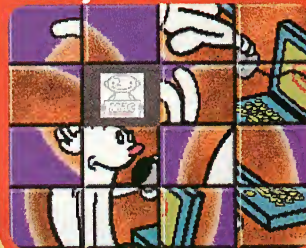


YOU'LL DIG KLONDIKE GOLD.

secret hot spot. You'll be automagically transported to a hidden area of

The Disc. When you solve the puzzle, the CD-ROM will give you a code. Enter this code on the Web site for your chance to win a copy of Klondike Gold from DNA Multimedia—it even comes with its own pan. Good luck!

Can you turn this...



into this?



HELP

You Have a Problem?

What! You need help? If your super-phat disc is mangled, warped, broken, or otherwise disturbed, you can get a replacement from IMAGINE's customer service. We've set up a special page on our Web site, <<http://www.macaddict.com/info/service.html>>, where you can order one, or you can call them directly at 415-468-4869. If you can't install anything, or get disk errors, do the same.

If you have a different problem with The Disc, please stop by <<http://www.macaddict.com/cdrom>> before you send us e-mail. If you don't find a solution there, please let us know about it at <letters@macaddict.com>.

If you're having a problem with System software, we recommend calling the good folks at

800-SOS-APPL. They'll be more than happy to help you.

And if you are having trouble with one of the programs on The Disc, please be sure to read the accompanying Read Me file for contact info. To make it easier for you to find help for the programs on our disc, we've conveniently added e-mail and Web contacts in the Shareware and This Issue sections. Whenever you click on install, you'll find the following helpful dialog:

Shareware Warning

If you encounter any problems with the Shareware you are about to install, please contact the following company below:

Stairways Software, PO Box 1123, Booragoon, WA 6154, AUSTRALIA, support@stairways.com.au (email)

Launch Web

Run Installer

FINALLY, A DIGITAL CAMERA
WITH EVERYTHING YOU NEED
TO UNLEASH THAT MAD,
IMPETUOUS ARTIST WITHIN.





Oh-la-la, make room in your imagination for the pocket-size Sony DSC-F1. Then simply aim, shoot and save up to 108 sharp, clear pictures for instant downloading of your creative genius. The DSC-F1's all-



Integrated LCD screen.

encompassing list of features includes a LCD screen for instant review, wireless* transfer of images, and of course, Sony's leading CCD technology for outstanding image quality. Making it the crème de la crème of digital cameras.

For more information on the Sony DSC-F1, just call 1-800-352-7669 or visit www.sony.com/technology. And turn your work into a work of art, tout de suite.

SONY

640 x 480
Resolution,
24-Bit Color

Built-In Wireless
Infrared and
Serial Interface

1.8" Color
LCD Screen

Stores
108 Images at
640 x 480

Built-In Flash

Video Output
for TV

Rechargeable
Lithium Ion Battery

Mac® and PC
Connection Kit
Included

Sony's
Progressive
Scan CCD



DEMOS

Demos are versions of commercial products that are not fully functional. Play them directly from The Disc, or copy them to your hard disk. This month we bring you a plethora of children's software demos. To escape out of a demo, hitting command-period usually returns you to our application.

1. Over the Reich



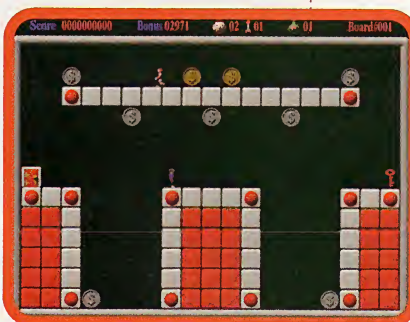
For those of you who like both vintage carnage and aviation, it's time to rejoice. Avalon Hill's *Over the Reich* lets you step back 50 years into the air war waged over Europe during World War II. Command planes for the Royal Air Force, the U.S. Air Corps, or the Luftwaffe in this turn-based strategy game. You can join dogfights, strafe ground targets, and even play against others over the Internet. If you really enjoy the game, play for another tour of duty and help the side of your choice win (or at least not lose) the war.

2. Stay Tooned



Toons have escaped the television and taken over your building. What can you do? Play a plethora of games, that's what. The full version of *Stay Tooned* features more than 30 games—such as *Make Way for the Highway* and *Kartoon Kombat*, plus spiffily implemented 3D games that you play while wearing some pretty goofy glasses—and more than 50 apartments to enter, where you'll be visited by cartoon characters who will subject you to their particularly 'tooney brand of humor. Loads of fun guaranteed.

3. Step On It!



If you couldn't get enough of *Donkey Kong*, if you played *Lode Runner* until your fingers bled, or if you dropped more than a few quarters on the arcade classic *Lode Runner*, then you might be interested in *Step On It!* This platform-type game combines elements from all these games and adds strategy, to boot. Create and destroy bricks, climb around, avoid monsters, figure out more than 100 levels, and generally get hooked on the newest offering from Casady & Greene.

4. Zone Raiders



If you loved that '73 Chevy Impala and thought it would be cool to mount, oh, say, a laser and a machine gun on it, then, oh yeah, make it hover instead of roll, and then take it on a track and shoot things... *Zone Raiders* from Virgin Interactive is right up your fire-blazing alley. Race around a track rendered with 3D texture maps (similar to *Havoc*) and blow things up as you zoom on by. *Zone Raiders* also allows for

network play by up to four people, so you can take a shot at your friends without getting a set of shiny police cuffs.

5. Also on The Disc are a couple of demos for the younger Mac

addicts in the crowd. The *Living Books* sampler and the *Toyland* preview will entertain the tykes until you scream for control of your Mac. In addition, you'll find many demos of products reviewed in this issue of "MacAddict." —David Reynolds

LET'S MAKE BEAUTIFUL MUSIC TOGETHER

Submit your tunes to be included as a soundtrack on The Disc! See your name in lights and multimedia splendor by sending your recordings and a photo (in any digital format—no tape cassettes, please) to: Music Mavens, MacAddict, 150 North Hill Drive, Brisbane, CA 94005. If we like it, we'll use it on a future disc. Please do not send us the theme to "The Simpsons"! All recordings must be your own original material, which you made from scratch and haven't yet published. You will retain all rights to your work and just give us permission to use it on The Disc. Your music, of course, must be made on a Mac!

AND THE WINNER IS...

Bill Calabrese of Ludlow, Vermont, decoded December 1996's CD-ROM contest ("the disc," p16). Bill will be happily click-clacking away on his new TrackBoard, courtesy of Datadesk. Turn back to page 15 to read about your chance to win Klondike Gold.





**You like feta cheese?
We like feta cheese.**

**You like rockabilly?
We like rockabilly.**

**You like Egyptian art
from the 5th century BC?**

It's kind of eerie how much we have in common.

Want to untangle the web and make it more like you? We thought so. That's why we created the most personal, hassle-free Internet service around. And besides Internet access, we offer hundreds of our own special features. Like our convenient navigation tools. They make it really easy to point and click wherever you want to go. We even made it surprisingly affordable. We think you'll like Prodigy Internet™ even more than feta cheese. And we'll give you one free* month of unlimited use to make sure you do.

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SHAREWARE



Hooray! We've cleaned up even more of our act. The MacAddict installers on The Disc now come sans splash screen. And they install software in their own folder, not 40 levels deep! The interface on The Disc is different as well. It looks much more like the This Issue section. A pop-up menu now switches you among software categories, and when you first reach the Shareware page, every piece of shareware is listed in one big list. If you have more suggestions for the MacAddict super-phat disc, send them on over to <cdrom@macaddict.com>.



OUR WEB SITE links to the latest software versions.

FUN AND GAMES

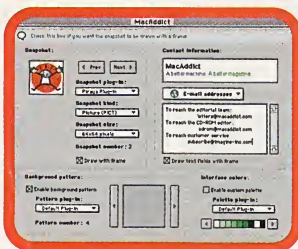
ColorFall

ColorFall is a Tetrisish game that is not quite as frenzied. All you need to do is drop the squares down and try to get four blocks of the same color in a row or a block. Although there is hardly ever a chance of losing, we find it hard to stop playing. And it even works on a Mac Plus!



CREATIVE TOOLS

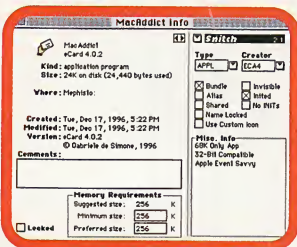
ePress



Create freakin' awesome electronic business cards with this easy-to-use program. Simply add a picture on the left and your contact information on the right. Save the document in ePress and out pops an eCard that anyone can double-click to get your vitals. Included on The Disc is a MacAddict eCard with e-mail and phone contact information.

SYSTEM UTILITIES

Snitch



Tattletale! You weren't supposed to tell that human out there that I'm a text file created by R*ch. Snitch. See if I ever tell you anything again. (Snitch adds more info to the standard Get Info window. You can change creator and file types, too.)

SYSTEM MORSELS

Deconstructing Installers

People have reported having problems updating their System to version 7.5.5. Avoid them by following these steps:

1. Make a backup copy of everything you hold dear.
2. Use the original System 7.5.x installer that came with your Mac. When you get to the screen with the Easy Install button on it, press command-Shift-K and click the Clean Install radio button. Click the default button, which now reads Clean Install. Restart your Mac when the installation is finished.
3. Now run the System 7.5 Update 2.0 installer from the MacAddict disc. When that one's finished, restart your Mac.
4. Finally, run the System 7.5.5 Update installer from our disc. When it's finished, restart your Mac and you're done. (Third time's a chime, er, charm!)

To restore your System to its original glory, you will need to rescue any third-party extensions, control panels, or special folders from your old System Folder (the Finder has renamed your old System Folder Previous System Folder) and put them in the new System Folder. Now is also a good time to go through your old Preferences folder and throw away preferences from applications you no longer use. To be safe, keep anything you don't recognize. Put everything you save into your new System Folder's Preferences folder.

If you use Qualcomm's

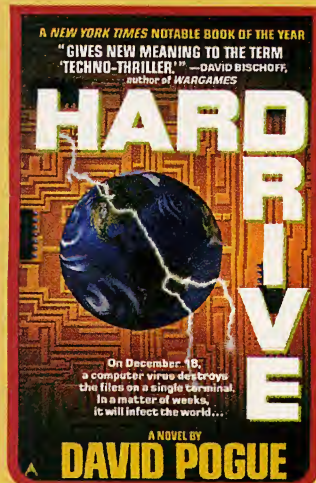
Eudora, make sure you move the Eudora folder located at the root level of the old System Folder into your new System Folder. This folder contains all of your Eudora mail and account settings.

Keep your old System Folder around for a few days to ensure you've rescued everything important. When you are sure you have everything you need, you can trash it.

—Wade Albright

HARD DRIVE

If you didn't happen to buy a hard drive from APS Technologies in 1993, you missed out on a bundled book. Fear not, "MacAddict" will come to your rescue. We have a serialization of David Pogue's Silicon Valley thriller. In this tale of high-tech hi-jinks, a virus is implanted in next-generation speech-recognition software. Find part one of "Hard Drive" in the Finder at the root level of The Disc.



**Play solo...or go on
the Internet and kick the crap
out of snotty PC owners.**



**The strategy game that redefines Macintosh gaming.
NOW AVAILABLE IN STORES EVERYWHERE.
OVER A MILLION UNITS SOLD WORLD-WIDE.**



**Over 40 missions
on two CD-ROMs**



**Dozens of close-ups
and action movies**

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THIS ISSUE

Throughout this sweet-smelling bundle of meaty Macintosh information, you'll see a funny-looking circular icon filled with whooshy spirals. That icon means that you can find spectacular software on The Disc that's related to the words you read. As you flip through the Reviews section, chances are this icon refers to a product demo. Articles in the How To section usually are accompanied by a demo of the software mentioned and sample documents.

To get the software off The Disc and onto your Mac, go to the This Issue section on The Disc. The dial on the left side of this page switches between Highlights and Every Month (just like the Table of Contents a few pages back). To turn the dial clockwise, click on the right side of the dial (and vice versa to go the other way). The middle column lists the article titles. Clicking on one of the articles flips up, in the right column, a list of software to install. Click on the name of a piece of software to get its description.

GET INFO

Book Cover



With this PowerBook 1400 BookCover (designed by Adam Vanderhoof, our esteemed associate art director), you'll be busy as a bee in no time!

HIGHLIGHTS

Internet Crash Course

On The Disc is all the software you need to keep yourself from getting run over by the Mack truck on this month's cover. In addition to the software mentioned in our 23-page Internet Survival Guide starting on page 34, you'll find dozens of other noteworthy software.

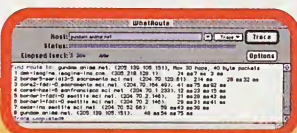
Anarchie



Sure, this program's earliest incarnation enabled you to search the Internet for information. Nowadays, people mostly use it to transfer files via FTP to and from servers. Pull down the About box from the Apple menu to find this nifty dialog. Yup—Anarchie logs where you've gone, whether you've been naughty or nice, and gives you a rating based on how many files you've downloaded. This Mac addict is a Net Destroyer. What are you?

What Route

How do you get to be a Net Destroyer? By sending and receiving network packets. This Mac addict has no clue what a packet is (although she will, once she reads the Survival Guide), but she does

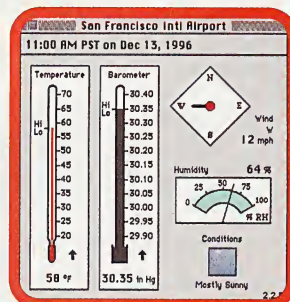


know, thanks to What Route, that it took eight jumps for a query to travel from her Mac to the Gundam Anime server.

NetBots

Once the charm of this newfangled Internet thing wears off, gathering information can be a tedious chore. What you really need is an intelligent agent that can read your mind's cravings and feed you just what you want to know. It would be even more useful if it picked out stuff you didn't even know about. Too bad it doesn't exist yet. We figure you'll need to wait until the next millennium, at least. In the meantime, use NetBots to query certain servers to see if they'll return a search string. Isn't emerging technology fun?

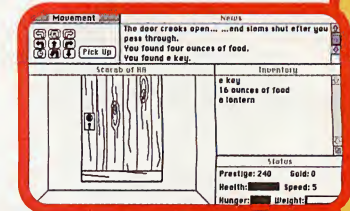
Weather Watcher



You probably have the window closed so you don't get any screen glare, right? And you've been surfing the Net for so long you don't even know what month it is. Don't fret. You still don't have to go outside.

Use Weather Watcher to check the weather without opening the curtains. (And yes, it really is mostly sunny and 58 degrees here in beautiful San Francisco in the middle of winter.)

This Old Mac

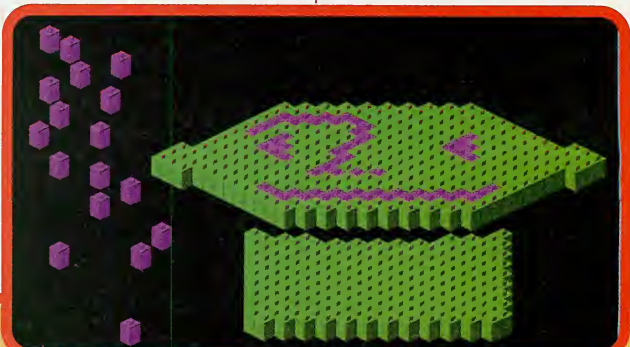


Your mature Mac can play games, too. Just don't expect anything very graphically intense. Click the arrows in the Movement window to move through Scarab of Ra's maze.

EVERY MONTH

How to Use AppleScript

The friendly folks at Gryphon Software let us put a special version of their demo on The Disc. Unlike the standard demo, this version is scriptable. We also included the Animation scripts that come with the full version. To follow along with the article, you'll also need the sample script. Our new CD-ROM editor, Wade Albright, made a spiffy installer that installs the demo and the script for it, or just the script if you own Gryphon Bricks. Way to go, Wade!



the web site

In the space of the last couple of issues, the new and improved MacAddict Web site has gone from a lofty concept—napkin doodles, in the most literal sense—to a firm reality, a fact of nature as solid and irrefutable as the very rock itself. Now that we're no longer talking utter vaporware, it's time for an updated Web site tour.

From the Top

To begin at the beguine, you'll find the splash screen, the top level of the MacAddict Web site. At this writing, it's redecorated for the holiday season.

latest changes, additions, and news blurbs from the six topical sections, making it a great way to catch up on what has transpired since your last visit. Each blurb includes a pointer back to the appropriate topic.

Pick Your Topic

OK, so what's the deal with these topics?

Most of the topic descriptions should be brutally self-explanatory: The Arts section covers graphics, publishing, multimedia, and other forms of creative expression; Games is the obvious; Net deals with Internet client software and

publishing tools; and Tools surveys customization and maintenance tools for the proverbial "power user."

Clubhouse, the term we're using at press time, is a bit more vaguely defined. It

includes Apple watching, commentary about the state of the Macintosh, and general Mac community-oriented stuff. The iconic Max is waving an Apple flag, in case you're curious.

Last, About Us offers information about the Web site, the magazine, the CD-ROM, the staff, and whatnot. You'll find ample pointers to most of the really important elements of this section in other parts of the site.

Once you pick your topic of interest...



MacAddict
Back to Home
What's New
Articles
Reviews
Favorite Links
Product Guide

What's New
Welcome to the Internet-focused section of the MacAddict Web site. Here's what's new and updated in this section, plus links to the latest Net news and resources. For the latest scoop on everything on the site, see our general What's New page.

FRIDAY, DECEMBER 13
Open Transport 1.1.2 fixes a few obscure bugs, picture, if you will, Apple's Open Transport team checking off a couple of outstanding items on their to-do list. You can get it now from Apple's software updates library, and it should show up soon on the official Open Transport page. Fixed items include a performance problem with some print servers, a couple of potential crashing bugs, and sluggish performance for Web servers. As usual, reader Enrique Garcia was the first to tip us off.

THURSDAY, DECEMBER 12
Here's an interesting development. Sun Microsystems, originator of Java, is launching a 100% Pure Java Program which will certify that Java applications conform to the standard, platform-independent implementation of Java. This program is aimed squarely at Microsoft, which is promoting its own variant of Java that integrates the company's ActiveX technology for an overview of Microsoft's Java plans and products, see Microsoft Presents Java.

page for the latest twists and turns on this front.

As ever, write to your addle brained online editor at <webmaster@macaddict.com> and your feedback will be duly filed,



CHECK OUT the new MacAddict Web site.

Sites Within Sites

Each topic is subdivided into pages. Every section has a What's New page, for a general introduction to the section and what has been transpiring in the world at large. This is where to find the latest news and links. Other

constants include pointers to "MacAddict" articles and a collection of product and company links. The latter includes information on the latest updates and new products, another favorite feature of the old site.

Each section has its own special features. As you can see, the Net section currently sports a Favorite Links listing; by the time you read this, the section may well have swelled to include more special features. The exact

lineup will be in a state of flux for the foreseeable future, as we add new features, reorganize existing ones, and so forth. Watch the main What's New

sorted, cataloged, and archived in a manner akin to the Ark of the Covenant at the end of the first Indiana Jones movie.

—Mark Simmons

LIVE WIRE

Since we removed our fake browser and replaced it with one that could actually follow links, we've made special pyramid-powered links to the MacAddict Web site. Come here for the latest Apple news, updated software, and a sneak preview of next month's issue.



To reduce the bewilderment for first-time visitors, we streamlined the opening screen. As well as the list of sections to the left, we highlight the latest news throughout the site, the latest print issue, and our collection of help resources (or FAQAddict, if you will).

Unless you have a burning problem or question, or you want the scoop on the new issue, you'll probably want to start with the main What's New page. This page lists the



get info

News, trends, and other very valuable information that you will want to know.

Stuff That 'Book **UPGRADING THE POWERBOOK 1400**



THE ULTIMATE UPGRADE for your PowerBook 1400 is these lovely, custom-designed covers, available *only* on The Disc. Wear them proudly—they're exclusives!

So, you have a new PowerBook 1400, and you're loving the beautiful screen, the CD-ROM, the sound. Still, you feel something's missing. Maybe you want more speed, or you want to hook up the 'Book up to an Ethernet network (for Marathon, of course), or you want more storage. What are your options?

One of the advantages of owning a long-anticipated product is that many third-party vendors have had a good, long lead time in developing for your baby. NewerTech offers

Installation of internal 'Book parts is a snap.

its NUpowr 1400/200 "200MHz CPU + Cache" upgrade card, which, as you might guess from the name, packs not only a 200MHz 603e processor but also 128K of Level 2 cache on one card. (You'll get a speed boost from both the processor and the cache.) As long as you're careful to ground yourself before touching any internal PowerBook parts, installation is a snap, literally—just unplug your old CPU card and slide in the new one.

If you're a mobile presenter, the PowerBook 1400's CD-ROM drive is a vital feature (now you can show off the MacAddict disc while on the road). Still, the Power-

Book 1400 doesn't include any video-out capability, so you can't show off your multimedia wonder on a big screen. By the time you read this in early 1997, Apple should be

producing an internal 8-bit video-out card (\$149 srp), and NewerTech should be shipping a (yet-unnamed) 16-bit video-out card to solve this conundrum. Apple's card will display 256 colors on a 17-inch monitor; NewerTech's will display millions of colors—thousands on a larger screen—and will also accelerate QuickTime playback. However, these cards fill the PowerBook 1400's single internal expansion slot, so you won't be able run an internal Ethernet card (such as those from NewerTech, Dayna, and Farallon) at the same time. You'll have to use PC card Ethernet adapters such as those from Eiger Labs and Dayna. The PowerBook 1400's internal slot could accept a combo video-out/Ethernet card, but as of late December, no one had announced such a beast.

For storage freaks, VST offers hard drives, a 230MB removable magneto-optical (MO) drive, and a Zip drive for the expansion bay. (All devices for the 1400's expansion bays are sleep-swappable—that is, you can put your computer into Sleep mode, rather than having to shut down, before swapping drives.) Fujitsu makes an external 230MB MO drive that connects to your PowerBook 1400 via a PC card. APS, La Cie, and other vendors plan to offer internal drives for the PowerBook 1400, but as of late '96, no details were available. You may want to use these accessories for power-cord-enabled work, though, because they're more of a drain on your battery than the floppy drive, which, hard as it may be to believe, isn't obsolete yet. —DDT

CONTACT INFO:

APS Technologies: 800-874-1354

Dayna Communications: 801-269-7200

Eiger Labs: 408-774-3456

Farallon Communications: 510-814-5100

Fujitsu Computer Products:

800-626-4686

La Cie: 503-520-9000

NewerTech: 800-678-3726

VST Technologies: 508-263-9700

TOLD YOU SO...



OK, we were a bit early on some of our predictions for 1997 (Jan/p60), but at least we were right. Gil Amelio made the cover of "Forbes" (Dec. 16, 1996), and Apple licensed its logo to the Apple Cafes.

REASON 27

WHY THE MAC IS BETTER THAN A PC

Although you can change batteries on a PC notebook computer while it's running, you can't swap out floppy drives, CD-ROM drives, or anything else in an expansion bay without turning off the whole dang thing first. With a PowerBook, you simply choose Sleep from the Special menu, and switch devices to your heart's delight.

BRING ME THE GRAPHIC THAT GOES PING!

(AND SOME CHOCOLATE)

You may be hearing the Web wise around you saying “ping” occasionally these days. No, they’re not in need of a visit from the Maytag repairman—they’re probably talking about a lovely new graphics format called PNG.

PNG, or Portable Network Graphics, received a huge boost just a few weeks after its inception when Unisys and CompuServe gave the online world a little New Year’s Day present in January 1995. Due to a patent that Unisys holds on the compression algorithm used in GIF (Graphics Interchange Format), the companies decided to charge royalties on software used to create and display images in GIF. This created problems because one of the most widely used graphics formats on the Web suddenly became proprietary.

PNG was the response to the royalty surprise. PNG (which is “legally unencumbered,” as the PNG specifications say) was designed to replace GIF as a graphics specification. PNG provides many of the features found in GIF—such as a 256-color palette,

progressive display, transparency, and lossless compression—and it adds some nifty features such as faster progressive display, gamma information, and file corruption detection. Greg Roelofs, who put up the PNG Home Page <<http://quest.jpl.nasa.gov/PNG/>>, points out that one of the best features of PNG will be the unambiguous pronunciation of the acronym.

PNG is on its way to graphics programs.

Adobe Photoshop 4.0 and FreeHand 7 are among the applications that will create PNG graphics. On the Web side, things aren’t happening quite so quickly: NCSA MacMosaic supports PNG images; Microsoft Internet

Explorer 3.0 should support the format when version 3.0 is released; and Netscape Navigator will support them, too, but only through unofficial plug-ins (you’ll find such a list if you follow the links from the PNG Home Page). As the limitations of the GIF standard start to show (and if royalty requests are ever pursued with more vigor), you’ll see PNG popping up more frequently. —DR

Photoshop 4.0 and FreeHand 7 will create PNG graphics.

10,000-FOOT MACS

We previously noted that Mac product specifications warn about operating your Mac above 10,000 feet (Oct/96, p47). You’ve asked, curious readers that you are, “Why is that?” So we took your question to the good folks at Apple.

An Apple Tech Info Library article on operating a PowerBook at above 10,000 feet (they have amazing information in that library—<<http://www.info.apple.com>>) states, “On PowerBook computers, when altitude limits are exceeded, the principal risks we have observed include general operational problems, hard drive problems, and even the possibility of the screen cracking.” Wow.

DON’T BE SCARED!

OK, so why is that? The people we asked wouldn’t go into too much detail, but they did agree that the danger is more from temperature than from altitude. The higher you go, the colder it gets, and the more fragile and brittle components such as hard drives and displays get.

Take heart, mountain Mac users—it’s not just your beloved platform that leans toward altitude sickness. A 10,000-foot max operation altitude and a 15,000-foot max storage altitude are pretty standard in the computer industry. Just remember to keep your PowerBook warm when scaling Pike’s Peak to write up that report. —DR

We Have a Winner!

In December, we asked you to match some icons found in the menu bar with the extensions, control panels, or System software that owns them (Get Info, “Eyeball the Icons,” p25). The prize? Sumeria’s series of OceanLife CDs. Although hundreds of you responded, the prize is awarded to only one person. That person, after hours of mind-melting thought and working through the thousands of permutations, managed to correctly match all 10 icons. The winner? David A. Steiner. Congratulations, David, on your brilliant matching skills, and your uncanny ability to be picked randomly.

The icons with their correct names are shown below.

- | | | |
|--|---|----------------------|
| 1.  | 6.  | 1. Apple |
| 2.  | 7.  | 2. Application |
| 3.  | 8.  | 3. Balloon Help |
| 4.  | 9.  | 4. Conflict Catcher |
| 5.  | 10.  | 5. Magic Menu |
| | | 6. MS Office Manager |
| | | 7. Now Contact |
| | | 8. OSA Menu |
| | | 9. QuickKeys |
| | | 10. Web Quick |

get info

The Part Parade

The part parade marches on as more Live

OPENDOC MARCHES ON

Objects and container applications appear and the technology advances. Here’s a roundup of the latest OpenDoc acts:

- Corda scores big—Corda Technologies’ bundle of Live Objects (including C-Graph, C-Table, and C-TextBox) was the top seller on CNET Direct’s Buydirect.com site. And it’s no wonder. This bundle sells for only \$29.99, and it gives you the power to create graphs, link them to great tables (or to data over the Internet), and annotate all of the above with bits of text.

- IBM comes through—Big Blue has been toiling tenaciously on OpenDoc for Windows NT, Windows 95, OS/2, and AIX. The company released OpenDoc 1.1 for those platforms, which is equivalent to OpenDoc 1.0.4 on

the Mac. This version also includes some interoperability between OpenDoc and OLE 2.0 parts. Way to go, IBM!

- Cyberdog browser gets “fixed”—There’s a replacement browser coming for Cyberdog, although it is not from Netscape

Cyberdog’s browser is getting “fixed.”

(although Netscape remains committed to providing such a part). Nope, your favorite digital dog will get its new part from Apollo Technologies. Named InstantSpace, the browser will sport a new interface and drag-and-drop URLs, and it will sell for a paltry \$39. The part was scheduled for public beta in December. —DR

NEW

FOR THE MAC

SX SERIES

(Keyspan: 810-222-0131)
<http://www.keyspan.com>; \$259 to \$350
 (ergo), scheduled to ship early January)

The SX series allows your Mac to have more serial ports for connecting more peripherals. Depending on the model, these PCI cards provide either two or four additional high-speed, 230Kbps serial ports. The cards provide standard RS-232/RS-422 connectivity through mini din-8 connectors.

LABTEC LCS-2408

(Labtec: 360-896-2030)
<http://www.labtec.com>; \$85.99 (street)
 scheduled to ship early January)

A stand-alone subwoofer, the LCS-2408 works with nearly all amplified speakers. The compact subwoofer fits on a desktop and connects to speakers either with or without a subwoofer output jack. The front panel sports a master volume control and bass adjustment.

FRONTPAGE 1.0 FOR MACINTOSH

(Microsoft: 800-486-9400)
<http://www.microsoft.com>; \$149 (avg)
 beta available for download early January; scheduled to ship March)

This Adobe PageMill competitor was designed to let you create and manage Web sites regardless of whether you know HTML. The cross-platform product sports wizards and templates and lets you customize any part of a site created with a wizard. You can even edit the HTML code that FrontPage creates. Smart site management features include the ability to move pages to a new folder and have FrontPage rename them and update the links.

get info

Whatsit to You?

GUESS AND WIN!

Following on the heels of our wildly successful Hoojit Contest (Nov/96, p27), we've taken a picture of another chunk of metal (sans paint). Unlike the Hoojit, this Whatsit can be used with many a modern Mac. If the Whatsit to you is the same as



the Whatsit is to us, then you'll have a chance to win this fabulous XClaim VR card, courtesy of ATI



Technologies. This miracle of modern technology speeds the display of 3D graphics and also digitizes QuickTime movies. Tell us what the Whatsit's for, either on our Web site <<http://www.macaddict.com>> or send your answer to Whatsit to You, c/o MacAddict, 150 North Hill Drive, Brisbane, CA, 94005. A winner will be drawn from all correct entries on March 15. We'll announce the winner (and reveal the true identity of the Whatsit) in an upcoming issue (we promise). —KT

CRAZY FOR COCOA

KIDS LOVE IT!

If your children always seem to be off in their own worlds, just wait until they get ahold of Apple's object-based programming language, Cocoa. The preview version, currently available free for download at <<http://cocoa.apple.com/cocoa>>, already has kids aged five and up creating action-packed worlds with dropping bombs, floating flowers, and layers of ladders. Kids can



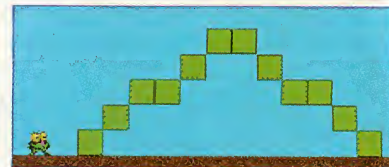
embed these worlds into their Web pages (what five-year-old doesn't have one by now?) and share them with the world.

It used to be that kids learned to program by typing in the most basic of Basic commands to make their names repeat up and down the length of the screen. Now you don't even have to be a C++ student to make characters, sound, movement, and animations conform to

your will. Kids can use Cocoa to create games, stories, and simulations by creating rules based on their characters' relations to other objects in the world.

A small control panel lets kids create characters or objects; import art; paint or draw with a Mac-standard paint palette; add rules; play animations; and sweep away mistakes. Although it doesn't take long for kids to figure out how to make a simple character run and jump, more complicated procedures, such as creating a second appearance or deleting objects, may require parental assistance.




By the time the final Java version is released in mid-'97, Apple hopes that Cocoa will be easy enough for kids to use all on their own. The company is relying on third-party developers to create pre-made characters and worlds that kids can just plug in and put to work without having to put any major drawing skill into play. But even with the possibility of ticklish Elmo pre-fab plug-ins and Cocoa Barbie Townhouse backgrounds, Apple is hoping Cocoa will be used for educational as well as recreational purposes. —NE



IT DOESN'T TAKE LONG to figure out how to make a character jump.

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TAKE A

This long-awaited sequel is a feature-by-feature enhancement of everything that made the original Heroes an all-time Macintosh strategy classic. Scores of new hero

STAB AT

and monster types, alliance formation for team play, enlarged combat maps, increased multi-player options, and a flexible

“World Builder” module are

THE ROYAL

just a few of the reasons why Heroes II for Macintosh will

be a prized addition to your CD-ROM treasure trove.

THRONE

Coming
In March



Computer Player



Computer Gaming World



NEW WORLD COMPUTING®

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Apple's Questions Answered

Apple's new ad campaign poses the following questions and suggests that you can find the answers more efficiently if you use the computer that more teachers use. Using our Macs, we found, within a few hours, all but one answer. Special thanks to the "Encyclopedia Britannica" online. The folks at "ESPN Magazine" helped with the curveball answer just because they're great people.



**Why do we itch?
Why are some people ticklish?**

Both questions deal with the largest organ on the human body—the skin. Most itching is caused by a histamine release in the epidermis (sometimes brought on by inflammation) and some researchers say that scratching relieves itching by damaging the nerves or interrupting the rhythm of nerve impulses. Tickling is a subthreshold sensation of pressure. Some people are more sensitive to this sensation than others.

Why can't you hear yourself snore?

When you sleep, your brain filters out many sensations that it considers unimportant; otherwise, you wouldn't be able to sleep.

One of these sensations is sound. People can hear themselves snore, but typically, as soon as they hear the snores, they wake up and the snoring stops.

What are stars made of?

Stars are big balls made mostly of hydrogen, with some helium and a few other trace elements. At the center of a star, the pressures from gravity are so strong that hydrogen atoms fuse into helium atoms. This fusion releases a tremendous amount of energy.

Why do stars stay in one place?

Actually, they don't. Stars move many miles per second relative to one another. They just look like they don't move because the distances between stars are so vast. Thousands of years ago, constellations looked different than they do today.

How come fish don't drown?

Fish have organs called gills—which are like lungs in air-breathing animals—that extract oxygen from the water around them. With gills, fish breathe water instead of air. In a sense, they drown when in air, because their gills can't extract oxygen from the air.

What makes a curveball curve?

When pitchers throw curveballs, they grip the ball along the seams and rotate their hand as they throw. As the ball spins, the friction of the seams rotating against the air creates lift, and the ball curves. For right-handed pitchers, a curve ball curves down and to the left. For left-handed pitchers, it curves down and to the right.



Are there zoos in Africa?

Why, yes, there are. For example, the Parc Zoologique et Botanique de Tsimbazaza is in Antananarivo, Madagascar. Africa also has wildlife preserves, which are something like vast, outdoor zoos.

What food group are cheese dogs in?

Cheese dogs, if you include a bun, onions, and pickles, fall into all four food groups. The hot dog is in the meat group; the cheese is in the dairy group; the bun is in the cereal

ODD THINGS TO KNOW

and grain group; and the onions and pickles are in the fruits and vegetables group.

When time began, how could they let everyone know?

Western Union.

Who puts the holes in Swiss cheese?

A big guy named Sal. Actually, the holes in Swiss cheese form when the cheese is put through a secondary fermentation process, during which propionic acid bacteria in the cheese form bubbles of carbon dioxide over a period of three to six weeks.

Why doesn't the ocean freeze?

Mostly because it isn't cold enough. Parts of the ocean freeze, though. Near the North and South Poles, the water begins to freeze at a temperature of 28.7° F, forming pack ice and icebergs. More than 11,000,000 square miles of pack ice exist near the poles.

Do reindeer get frostbite?

They can, if it's cold and windy enough and they have part of their body exposed to the cold and wind. Reindeer are well protected from the cold, though, sporting a coarse coat with thick fur underneath. They can also carry a lot of body fat to protect them.

How come I don't remember being born?

Some theories say that memory is like other cognitive skills (such as language) in that it has to be developed over time. Newborn babies can't remember things seen more than a minute or two previously, but by the time they're a month old, they can remember things seen 24 hours earlier.

Is hair any different from fur?

Yes. Hair is a collection of individual strands that grow from hair follicles. Fur, on the other hand, is made of "ground" hair (which maintains body temperature) and "guard" hair (which protects the underlying fur and sheds moisture). So all fur is hair, but not all hair is fur. —DR

Where Am I?

It's those nasty little details that will drive you nuts. Things such as having to switch your sound volume and default printer every time you move your PowerBook to a new location. Well, with the Apple Location Manager, you can now create custom settings for each place you use your PowerBook and switch among them with the click of a button. The Location Manager will ship with seven different modules: extensions manager, default printer, file sharing, networking, sound, time zone, and auto-item open. Location Manager requires a 68040- or PowerPC-based PowerBook and System 7.6. Expected for release simultaneously with System 7.6 in January, Location Manager will come bundled with PowerBooks or you can download it from <<http://www.powerbook.apple.com>>. —CE

Have You Played It Yet?

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Election Eve, 2004 A.D.

A powerful senator is brutally murdered while working late in her Washington D.C. office. Now you must solve the mystery of her death in this action-packed 3D shoot-em-up. Prime Target thrusts you into the most dynamic Mac gaming world ever. Blood splatters on the wall. Glass shatters in your face. And the interactive mystery challenges

your intellect as you hunt the senator's killers in Washington's corridors of power.



\$34.99

MSRP: \$49.99

System Requirements: Any PowerMac or compatible with a CD-ROM drive and color monitor.

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GAMES!**



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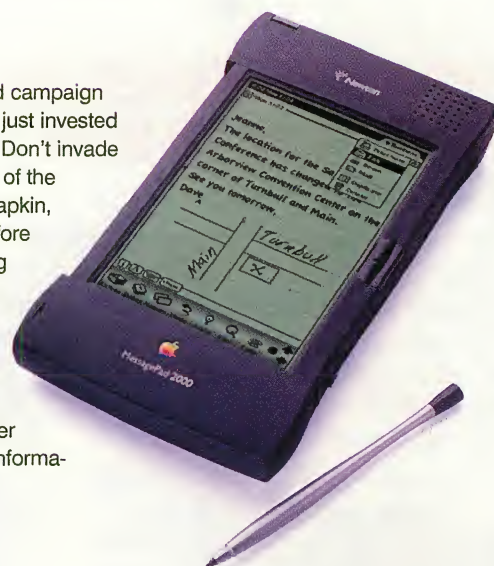
Newton MessagePad 2000

Apple Computer

The power to change history—that would be a good campaign slogan for the MessagePad 2000. If Napoleon had just invested \$1,000 worth of his hard-earned francs in a MessagePad, he might have written, “Don’t invade Russia during the winter” on his to-do list. Einstein might have taken a voice note of the grand unification theory that he instead scribbled illegibly in haste on a cocktail napkin, and Hannibal might have checked weather conditions in the Alps via the Web before trying to cross with several unruly elephants. The newest Newton boasts a blazing

A FISTFUL OF POWER.

161.9MHz StrongARM 110 microprocessor, 5MB of RAM, and a large screen. It also has a built-in speaker and microphone for voice notes, Internet access through TCP/IP and PPP protocols and a Web browser, two Type II PC Card slots, an infrared port, and a host of other nifty features. Never fear, Hannibal. By April you should be able to take your MessagePad 2000 into -4° F climes and still expect to use it when the weather warms up. At only 1.4 pounds, it’s easy to throw into a backpack, too. For more information, call 408-996-1010, or go to <http://www.newton.apple.com>.



PD/CD-ROM

Panasonic

Do you have an unnatural attraction to optics? Maybe you bought your first CD-ROM drive because it had a laser in it, or perhaps you keep a shiny spoon in your pocket to take out and gaze at when you’re feeling down. If this sounds like you, or you’re one of those people who would like a 4X CD-ROM drive that can also use optical cartridges, then you might want to consider the Panasonic PD/CD-ROM.

For less than \$500, this device not only acts as a CD-ROM drive, it also reads from and writes to 650MB optical cartridges. Now you can free up space on your hard drive for more shiny spoon images and play your favorite CD-ROM game, all without switching a peripheral. A 650MB PD cartridge retails for \$59.95 (or five for \$299.75). Call 800-742-8086 ext. PD, or go to <http://www.panasonic.com> to learn more about this dual-function SCSI wonder that comes in both internal and external models.

I'M A STORAGE DEVICE, AND SO AM I.



Sundial

John Neil & Associates

You were suspicious when Smitty, your chief rival for the nightclub’s head hand-stamper position, gave you the Warcraft II Expansion Set as a late holiday gift, but you accepted it graciously. Since then, you’ve been pounding Orcs right and left, and you take a break to look out the window and OHMYGOD IT’S MORNING! You’ve missed an entire night of work,

YOUR SIMULATED WINDOW ON THE WORLD.

thanks to Smitty’s evil scheme. No hand stamping for you. Don’t let this happen.

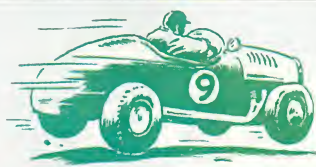
Sure, you could set an alarm clock, but

why not check out Sundial by John Neil & Associates. For only \$29.95, your desktop can become a time-lapse image of one of several places as it appears according to your Mac’s clock. Scenes include Yosemite’s Half Dome, Mount Shasta, Death Valley, and the Golden Gate Bridge. Besides giving you a rough idea of the time at a glance, the scenes are so beautiful you may never want to leave your Mac again. Unless you want to pay a special visit to Smitty. Call 415-905-3000, or surf to <http://www.jna.com> to find out more.



In The Mood

Havana Street



cravings

ART BLAST FROM THE PAST.

Retro is in. Even bell-bottoms and disco have made a comeback, sending shudders through those of us who have the misfortune to remember the '70s coherently. Return to quality artistic sensibilities by going back a little farther. But how to do that short of using a time machine and violating a few laws of physics? Havana Street can help with its package of 1940s-style clip art called In The Mood. For a mere \$229, you get more than 1,700 images in EPS format on CD-ROM. If that's just a little too much in the way of mid-20th-century hipness for you, you can purchase individual volumes for just \$59 each. Should you decide later to get the whole ball of clip-art wax, what you've spent on individual volumes won't go to waste; Havana Street will apply the difference toward the purchase of the full CD-ROM. For an artistic romp down nostalgia lane, call 512-892-4650, or go to <http://www.eden.com/~havana>.

40-inch Plasma Monitor

Mitsubishi Electric



Ever since you went to your first Giants baseball game when you were 14 and saw that massive television screen, one thought has been on your mind: How do I get one of those for my Mac? You've worked and saved for years now, struggling to collect the \$10,000 to \$12,000 you need to buy one. Mitsubishi will fulfill its part of the bargain in April, when it is expected to ship its 40-inch plasma monitor. You'll need a couple of eyebolts in a load-bearing wall to hang this 66-pound, flat-panel display on your living room wall. The monitor sports a resolution specification of 640 x 480; can also be used as a touch panel; has internal speakers, a wireless remote, and a side panel control; and can display Mac video output as well as other video formats. Imagine how beautiful your Microsoft Excel spreadsheets will look displayed on your wall in millions of colors. Contact Mitsubishi at 800-828-6372, or go to <http://www.mitsubishi.com> for more information.

PIXELS THE SIZE OF A BASEBALL.

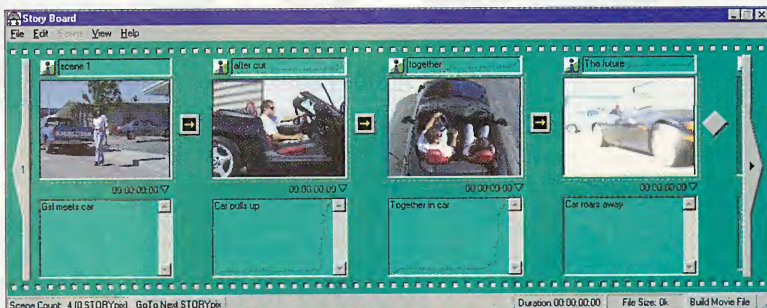
miroVideo DV 100

miro Computer Products

You make no bones about it: You're a speed freak. When 33.6Kbps modems came out in 1996, you were first in line for a firmware upgrade. When you heard that PowerPC Platform computers would sport a 75MHz bus, you wrote a letter to each employee at Apple, IBM, and Motorola, thanking them for their work. When Xponential announced 533MHz PowerPC-compatible chips, you made a pilgrimage to worship at its shrine. And, of course, you captured these significant events with your Sony DCR-VX700 Digital Handycam. But now, what to do with all that digital video? Miro has the solution, and it, too, is technology

VIDEO SO FAST YOUR WIRE WILL CATCH FIRE.

worthy of adulation for its hustle—it can transfer 200 megabits of data per second. Based on Apple's Firewire technology, the miroVideo DV 100 is a PCI card that lets you bring digital video directly from your Sony Digital Handycam into your computer. MiroVideo DV 100 also comes with Story Tools software to help you edit your video into a megahertz homage. The package, which should ship by the time you read this, also includes Adobe Premiere 4.2 LE. All this for \$999. After you finish your Jolt-and-black-coffee cocktail, rush over to your phone and dial 415-855-0955, or if a Web connection isn't too slow for you, point your browser to <http://www.miro.com>. —David Reynolds



STENCIL IT!
Point & Click Graphics for the Artistically Challenged
The perfect design program for an imperfect world.

Now Software brings you the #1 best-selling schedule and contact manager for the Macintosh. It's perfect for individuals, workgroups and the web. Fast and easy: one-click access to your schedule and contacts, plus easy setup for group scheduling and sharing calendars and contacts.

Stencil It! from Kaetron Software is packed with powerful tools and images (called stencils) that work together to automate the creation of flowcharts, network diagrams, web pages, floor plans, technical drawings, timelines and more. Instantly turn your creation into a hyperlinked web page.

Microsoft Office Standard
The Most Popular Office Suite for the Macintosh.
Enhanced for Small Business!
Includes: Word, Excel, PowerPoint, Mail, Bookshelf.

Get the office suite that works hard for your small business. Now, with essential small business tools and the Bookshelf CD-ROM reference library, Microsoft Office 4.2.1 makes it easy to portray a professional image, work seamlessly with other organizations and increase productivity.

Now Up-to-Date & Contact
SCHEDULES AND CONTACTS FOR:
- INDIVIDUALS
- WORKGROUPS
- THE WORLD WIDE WEB

Automate sales, focus marketing, control inventory and simplify accounting—run your whole company with just one program! Sound too good to be true? See for yourself. Get Big Business™ FREE! Just visit <http://www.bigsoftware.com/applefree>. From Big Software.

Big Business
SALES • MARKETING • INVENTORY • FINANCE

For all you

Quicken DELUXE
MACINTOSH
Organizes Finances Painlessly and Much More...
INSIDE \$20 UPGRADE REBATE
NEW 97
The World's #1 Best-Selling Personal Finance Software

Over 30 new shortcuts and improvements make Quicken® Deluxe for '97 the fastest, easiest Quicken ever. Improved registers, reports, graphs, free mutual fund quotes and a new, streamlined interface designed for Mac users speed up daily tasks. Get Clickin' with Quicken. From Intuit.

SoftWindows 3.0
The PowerMacintosh Solution
Requires Microsoft® Windows 3.11 and MS-DOS 6.22

Get two computers in one! With SoftWindows™ 3.0 from Insignia Solutions you can run Windows and DOS applications on your Power Mac™, right alongside your Mac OS programs. It's 35% faster than version 2.0 and offers Sound Blaster® compatibility for Windows applications.

In the past, you practically had to be a programmer to create pages for the World Wide Web. But now, whether you're a small business or home user, manager or webmaster, with Adobe® PageMill™ software for the Mac, you can create professional, dynamic and colorful pages—quickly and easily.

Adobe PageMill 2.0
The easiest way to create pages for the World Wide Web

Increase your productivity and achieve greater personal and professional success with ASCEND® 4.0 from Franklin Quest. Its unique features help you plan your entire day, week or month. Schedule repeating tasks and recurring appointments and print onto Franklin Day Planner® pages.

ASCEND 4.0 FOR MACINTOSH
Franklin Day Planner Software

MYOB accounting
Version 7
The Most Acclaimed Accounting Software Ever!

MY.O.B.® is designed to help you do exactly that—Mind Your Own Business. With 100 business templates, a powerful report customizer, comprehensive payroll, instant cash-flow analysis and more, it's the perfect solution to help manage your business effortlessly. From Best!Ware.

SpellCatcher™
General Interactive Spell Checker, Thesaurus & Synonym Glossary
By Steven Green

Spell Catcher™ will become your constant writing companion. It enhances your vocabulary, checks your spelling as you write, saves you time and keystrokes with a customizable shorthand glossary and saves your work automatically. Your masterpiece is in good hands now. From Casady & Greene.



You'd swear that ruthless competitor is a 100,000 person operation blanketing the globe. Yet it could easily be someone just like you, a group of brave entrepreneurs making a go of it. Except, perhaps, for one very important fact. They have an edge. They're doing business on a Macintosh® computer—where the

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know, that conglomerate you're up against is a five person

operation using all Mac software.



difficult becomes easy, little becomes big, good becomes brilliant. And, as any businessperson knows, any edge you can get is an edge you need. So visit stores like CompUSA, Best Buy and ComputerWare and check out productivity software for the Mac®. Or browse through *mail order catalogs* like MacWarehouse and MacMall. One thing's for sure, once you get all this great software, the only thing left to do is, well, outmaneuver that conglomerate. To get started, visit www.macsoftware.apple.com. **Or call 800-500-4862, ext. 100.**

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First Things First: Hopping Online

How to get on the Information Superhighway without getting smashed like a bug on the windshield of that big Mack truck roaring up behind you on the onramp.

By David Reynolds

Perhaps this scene will sound familiar. After a rousing "Letterman" show, you're lying awake on your bed, listening to the traffic rolling by outside your window. Phrases such as "IP address," "Subnet mask," and "TCP/IP," normally enough to put anyone to sleep, are speeding through your head. Your neighbor's dog barks and you think, "Am I the last one to get online?"

Not likely. Unlike almost everything else in the Mac universe, connecting to the Internet is neither intuitive nor natural. It involves teaching your Mac to think and speak Unix, and to do that, it means you have to learn a little of the lingua franca of the Internet yourself. It's not so bad, though. Once you know what software you need, how to install it, and how to configure it, you'll be staying up all night surfing the Web instead of fearing it.

What You'll Need

To follow along on this little adventure, be sure you have the following:

- A modem (14.4Kbps or faster preferred)
- An Internet service provider
- TCP/IP software
- PPP software (on The Disc)

For the best results, you should also have System 7.5.5, at least 8MB of RAM (16MB for PowerPC users), and a 68030 or faster processor. (You can use a Mac Plus running System 7.1 with 4MB of RAM, but color graphics on the Web will dither to black and white, and besides, it'll be plenty slow.)

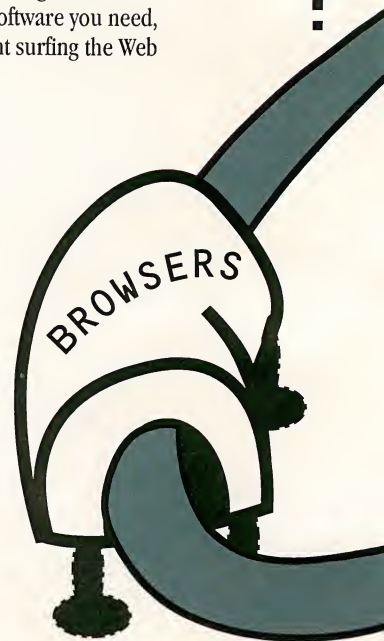
When you look at it this way, it seems downright simple. And it is, until you start configuring things. That's where we can help.

To OT or Not to OT

One of the most important things to decide early on is whether you'll use Open Transport or AppleTalk as your networking software. Open Transport is Apple's new networking software for Macintoshes, and it is the successor to AppleTalk. For some people, this decision makes itself. Open Transport will run on only 68030 or faster processors, so anyone with a 68020 or 68000 processor will have to use AppleTalk. PCI-based Macs can use only Open Transport, so those folks also don't have a choice. Anyone

SOFTWARE

Macs need an extension to help them speak TCP/IP, the language of the Internet. In addition, they need to be able to connect over phone lines to a server using PPP or SLIP software.



with a non-PCI-based Power Macintosh or an '030- or '040-based Macintosh can run either AppleTalk or Open Transport. By using Apple's Network Software Selector (available with Apple System software), non-PCI-based Macs (both Power and non-Power) can switch between Open Transport and AppleTalk. The table at right shows how it breaks down:

If you have	Then you can use
• PCI-based Mac	• Open Transport
• Non-PCI-based Mac	• Open Transport or classic AppleTalk with a 68030 or faster processor
• Mac with a 68000 or 68020 processor	• Classic AppleTalk

INTERNET SERVICE PROVIDER

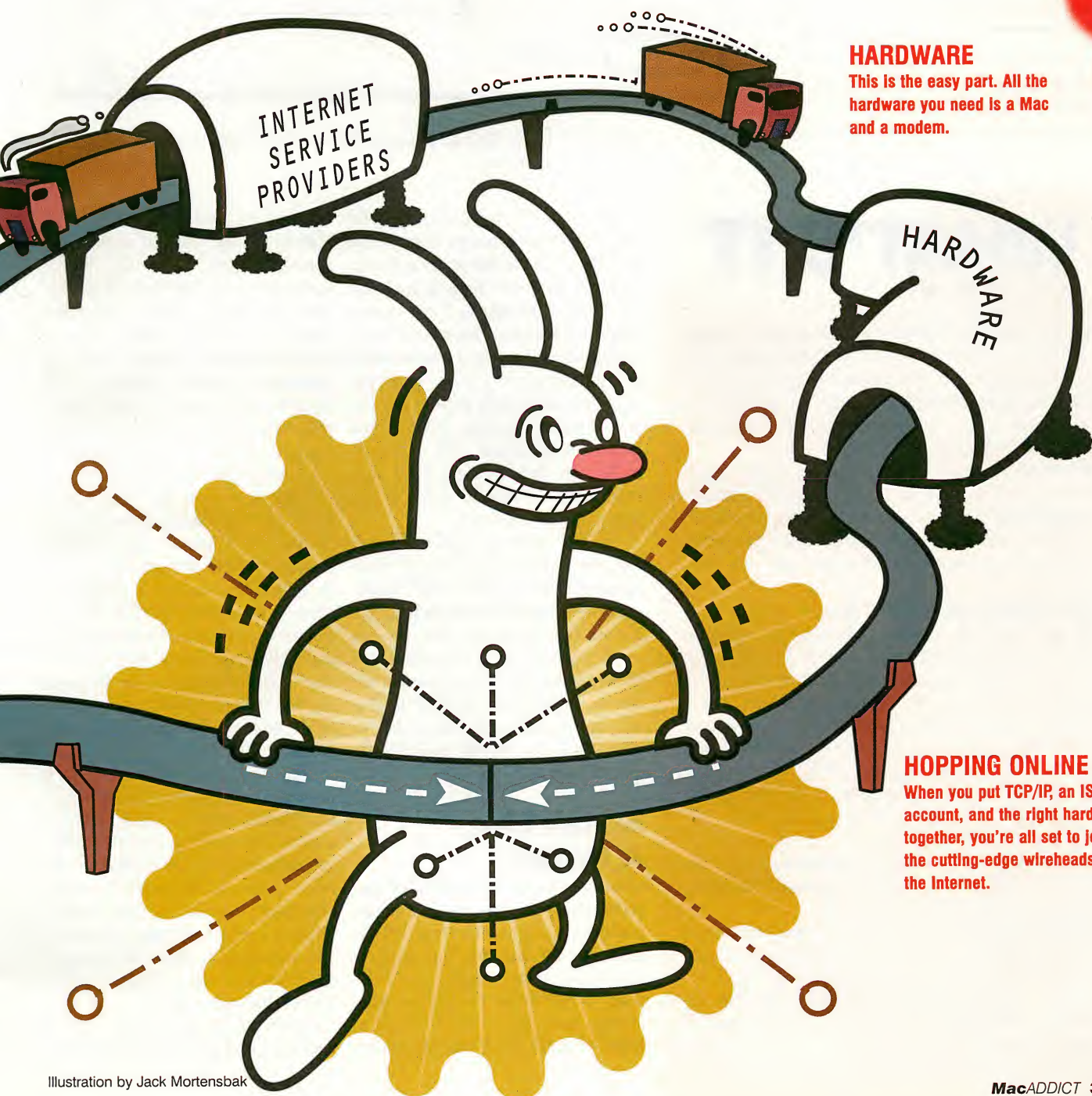
To get on the Infobahn, you need an onramp. When you sign up with an Internet service provider, or ISP, you'll get an account on its server, which serves as your access point.

HARDWARE

This is the easy part. All the hardware you need is a Mac and a modem.

HOPPING ONLINE

When you put TCP/IP, an ISP account, and the right hardware together, you're all set to join the cutting-edge wireheads on the Internet.



Select the type of IP address assignment here.

Select the IP address class here.

Use this slider to select the subnet mask if an IP address class wasn't provided.

Type in the gateway address here.

Enter the domain here.

Enter the domain name server's IP address here. (You may get a few of these.)

The screenshot shows the MacTCP control panel with the following fields and callouts:

- Obtain Address:** Radio buttons for Manually (selected), Server, and Dynamically.
- IP Address:** Class: A, Address: 0.0.0.0, Subnet Mask: 255.0.0.0.
- Subnet Mask Slider:** A slider bar with a triangle marker.
- Net | Subnet | Node Bits:** A table showing 8, 0, and 24 bits respectively.
- Net, Subnet, Node:** Input fields for 0, 0, and 0, each with a Lock checkbox.
- Routing Information:** Gateway Address: 0.0.0.0.
- Domain Name Server Information:** A table with columns Domain, IP Address, and Default.
- Buttons:** OK and Cancel.

MacTCP is the protocol for AppleTalk users.

WHAT'S IT ALL MEAN?

DOMAIN NAME SERVER The server that compares IP addresses and domain names so that when you type "www.macaddict.com" you end up at the right place.

DOMAIN NAME SYSTEM A way to assign names to Internet addresses so that you can type "www.macaddict.com" instead of an IP address.

GATEWAY A computer that connects two or more networks. MacTCP may ask you for a gateway address.

IP ADDRESS This is like your Mac's phone number on the Internet. With the help of a subnet mask, it tells other computers what network, subnetwork, and node your Mac is on.

NET, SUBNET, AND NODE The three parts of an IP address. They narrow down an address to a specific node. The net indicates which network an address is part of, the subnet indicates which subnetwork of that network, and the node indicates which specific node. The node itself is typically an institution with many computers, such as an Internet service provider, a local-area network, a business, or a school.

PPP (Point-to-Point Protocol) A way to connect to the Internet via a modem, similar to SLIP. PPP is the de facto standard.

SLIP (Serial Line Internet Protocol) Another way to connect to the Internet via a modem. Fast going the way of the Beta video format.

SUBNET MASK A filter that tells your Mac which parts of the IP address are to be used to indicate a network and which ones are to be used to indicate a node.

TCP/IP (Transmission Control Protocol/Internet Protocol) The set of protocols that let computers of all persuasions communicate to each other via a Unix language. Standard Internet protocols.

If you have a choice of networking software, we recommend Open Transport because it's a little easier to set up, it's faster on Power Macs, it gives you more options (especially if you're running a non-PCI Mac), and it is the future of Mac networking. Open Transport still lets you switch to classic AppleTalk, which you might want to do if you run across communications software that makes specific System calls and won't work with Open Transport—a rare occurrence. Get version 1.1.2; it's more stable than its predecessors.

So why does it matter whether you run classic AppleTalk or Open Transport? Two reasons. One, TCP/IP software is different for AppleTalk than it is for Open Transport. Two, you can use an Open Transport extension called OT/PPP (a faster, more reliable alternative to MacPPP or FreePPP) to dial up your Internet service provider, or ISP. (More on OT/PPP and PPP in general later.)

Speak Like A Native

All computers on the Internet, be they Macintoshes, Unix variants, or Windows machines, speak TCP/IP. These are the protocols that determine how data are transferred from computer to computer. TCP/IP keeps the Internet from melting down into a digital Tower of Babel. In order to get your Mac on the

Internet, you need to teach it to speak TCP/IP, and you do that through two control panels, one for classic AppleTalk and one for Open Transport. Apple's network software installers should install these goodies for you; they may already be on your Mac. If you use classic AppleTalk, you must use the MacTCP control panel (which comes with System 7.5). If you use Open Transport, you must use the Open Transport TCP/IP control panel.

Once you have the right TCP/IP flavor, you'll need to configure it, and to do that, you'll have to play fill-in-the-blanks. Your ISP will provide you with the information you need to fill them in. Much of what you'll enter into the control panels is the same for both MacTCP and TCP/IP, and much of it concerns where certain computers can be found on the Internet. Write down all the information your ISP gives you, because you'll need it.

The first bit of information you'll need is your IP address. Think of your IP address as your Mac's Internet phone number. It's your machine's network, subnetwork, and node location on the Internet—a 32-bit number usually expressed in dotted decimals. A what? Think of it as four numbers from one to 255 separated by decimals (example: 123.15.245.2). Good thing your Mac knows what to do with this.

You'll also need to know if IP addresses are assigned manually or by a

CHOOSING AN ISP

Understanding how to make your Mac speak Unix is only half the Internet access struggle. Now that you're a TCP/IP whiz and can convert IP addresses from binary while eating a dry peanut butter sandwich, you're faced with the task of selecting an Internet service provider (ISP) with which to communicate.

There are two basic kinds of ISPs: nationwide and local. If you live in a metropolitan area, you'll have your choice of several ISPs, from small, independent providers to nationwide ISPs (such as EarthLink and MacConnect). If you live in a relatively rural area, your options are more limited. Although you can connect to a distant ISP, this means long-distance phone calls that are probably more expensive than what your ISP charges for Internet access.

Local ISPs typically have much to offer. Because operations are based in your area, you can get help via a local phone call, and you can often even go into their offices to speak with an actual human being, which is sometimes worth a lot. Subscribers to local ISPs benefit from a sense of connectedness to their physical community.

Nationwide ISPs can be a good deal

if you can connect via a local call. Earthlink (at <<http://www.earthlink.net>>) offers unlimited Internet access for \$19.95 per month, space for a Web page, and 800-number access from anywhere in the continental United States (although this access will cost you). MacConnect bills itself as specializing in Internet access for Mac users, and it offers unlimited access for \$19.95 per month. MacConnect's connections are all capable of 33.6Kbps, the company offers Mac-specific technical support, and subscribers get 5MB of Web site space (with easy drag-and-drop maintenance). To find out more, go to <<http://www.macconnect.com>>.

One tried-and-true method of finding an ISP is to ask around. Find out what your friends are using, what the people at the local user group are using, and what your employer uses. It's like choosing a dentist. Here are some other criteria for choosing an ISP:

How much does it cost?

The standard rate is \$20 monthly for unlimited hours.

What's the ratio of available lines to subscribers?

This number tells you a lot about how many busy signals you're likely to

EARTHLINK AND MACCONNECT are two nationwide ISPs that offer full Net access.



encounter. A good ratio is 13:1. Anything higher than this, and you're likely to start hitting busy signals.

Is it accessible via a local call?

The cheapest plan in the world won't do you any good if you're paying out the wazoo for long distance.

Does it carry all Internet services (specifically, UseNet)?

Some ISPs censor content by omitting certain newsgroups. If this matters to you, ask about it.

Are all connections at 28.8Kbps or faster (preferably 33.6Kbps)?

Even if you don't, your ISP should be keeping up with the latest technology.

Is the tech support Mac savvy?

Although you'll be teaching your Mac to speak Unix, it's good to have someone to help you with Mac-specific questions.

AOL: FRIEND OR FOE?

Most Americans by now have a little bit of America Online, whether it's AOL floppy disks serving as drink coasters or AOL CD-ROMs serving as shims under a wobbly dining room table. Many even have accounts. So is it wise to get an AOL account? If you need e-mail and software downloads, and you don't plan on surfing the Web, it might be worth exploring. If, however, you want to do any real Web work or you're interested in exploring the less-trodden Internet paths (such as WAIS or Telnet), then you'll probably want to get an ISP. Here's how AOL and ISPs stack up.

America Online

ISPs

Monthly cost	Internet e-mail	Software downloads	Internet access	Setup	Space for a Web site	Other benefits
\$19.95 for unlimited hours	Yes	Yes (via searchable library and FTP sites)	Web, newsgroup, Gopher, and FTP access	Easy	Yes	Online community complete with chat rooms, online classes, and online media
Many offer unlimited hours for less than \$20	Yes	Yes (via FTP sites)	Most offer unlimited access to all Internet areas	More difficult than AOL	Many offer space	Ability to use preferred software, more customizable, more hip

online

Select the type of IP address assignment here.

Enter the IP address here (if necessary).

Enter the domain name server's IP address here.

Enter the domain here. Close the control panel and save any changes.

TCP/IP is the protocol for Open Transport users.

server. If assigned manually, you'll be given an IP address that you'll enter in one of the blanks. If assigned by a server, ask for the kind of server (it should be BootP, DHCP, or RARP). If your IP address is supplied by a server, the only other information you'll need is domain name server information: the domain (such as "macaddict.com") and the domain name server's IP address.

MacTCP users will need to know the IP address class (in a pinch, the subnet mask will do) and may need to know the gateway address (also a 32-bit, dotted-decimal number).

Subnet masks and IP address classes go hand in hand. A subnet mask is a sort of filter that, when applied to the IP address, shows which parts of the address indicate the network and which ones indicate the node. Don't worry. You don't have to know what all this means. You just have to get the numbers from your ISP and enter them.

Fill In the Blanks

Now that you have all the TCP information you need from your ISP, it's time to do the work. Here's how.

IF YOU HAVE MacTCP:

Open the MacTCP control panel. Depending on your machine's networking options, you should see a pretty simple screen with just a few icons and buttons. Unless your Mac is hooked to a network that has a direct connection to the Internet, select the PPP icon.

Click on the More... button at the bottom of the control panel, and you'll call up the configuration dialog box. Your screen should look similar to the one on the top of page 36. This piece of work definitely looks much more Unix-like. Here is where you'll enter all those bits of information that you so diligently obtained from your Internet service provider.

WHAT YOU NEED FROM YOUR ISP

Here's a quick reference of what information you'll need from your ISP in order to fill in all the boxes in your MacTCP, TCP/IP, and PPP control panels. Which control panel needs what information is indicated after each item. You may not need all of this info.

1. How are addresses allocated—manually or dynamically? (MacTCP, TCP/IP)
2. What kind of server is used to allocate addresses—BootP, DHCP, RARP? (TCP/IP)
3. What are the following addresses?
 - IP address (MacTCP, TCP/IP)
 - Gateway address (MacTCP)
 - Router address (TCP/IP)
 - IP address class A, B, or C (MacTCP)
 - Subnet mask (MacTCP, TCP/IP)
 - Domain name server address (MacTCP, TCP/IP)
 - Search domains (TCP/IP)
 - Domain name (MacTCP)
 - Net, subnet, and node numbers (MacTCP)
4. What is the main dial-up phone number? (PPP)
5. What is a secondary dial-up phone number? (PPP)

IMPORTANT SAFETY NOTICE

If you're a PCI-based Power Macintosh user, you shouldn't try to get around software restrictions by dropping MacTCP into the System Folder (even though you could get away with it back in the days of System 7.5.3). The System will see it and hide it, and you'll have to do some fancy work with ResEdit to remove it. Will this cause any problems? We're not sure, but at the very least, it wastes some hard drive space. Don't do it.

Enter server or account name here.

Enter phone number here.

Enter account user name here.

Enter account password here.

Account Connection Options

Server name: Bill's BBS

Phone number: 212-555-1212

☐ Dial as long distance

☐ Dial area code

Connect: Directly

Edit connection script...

User name: Bill

Password: *****

Cancel OK

FreePPP is the software of choice for AppleTalk users.

AN EASY WAY OUT

Although there's no painless way to get online, Apple offers the Apple Internet Connection Kit as an aspirin substitute. For the modest price of \$49, the kit includes a slew of software, including Apple Internet Dialer and Apple Internet Status, a pair of utilities that configure all necessary application settings and show the account's activity and connection time. The kit also includes a suite of Internet applications and plug-ins, as well as utilities to help you make sense out of what you find there. MacPPP 2.5.1 is included.

FREEPPP LETS YOU set up multiple accounts and locations for easy connection. This is especially useful if you have multiple accounts or a laptop.

If You Have TCP/IP:

The TCP/IP control panel is simpler to set up than the MacTCP panel. Open the TCP/IP control panel, then select PPP (or FreePPP if it's installed) in the pop-up menu. Next, play fill-in-the-blanks with the information from your ISP.

On to PPP

Now that your Mac can speak TCP/IP and knows with whom to speak, you need to give it a way to make the connection. That's where PPP comes in. PPP, or Point-to-Point Protocol, provides a way for your Mac to communicate to the Internet over telephone lines. (SLIP, or Serial Line Internet Protocol, is another way to do this but has largely fallen out of favor; PPP is

the standard connection method.) There are several ways to let your Mac do PPP; the two we'll look at are FreePPP and OT/PPP.

FreePPP is a piece of software free to individual users, as its name implies. Properly configured, FreePPP will dial for you, store multiple accounts and configurations, and watch to see that you don't stay connected when you've left the house and run up a 10-hour long-distance bill while you're at work. OT/PPP 1.0, a new PPP option for Open Transport users, will also dial multiple phone numbers and watch your online time, is Open Transport-native (read: fast), and is scriptable, to boot. Classic AppleTalk users will be able to use only FreePPP; Open Transport users can use either FreePPP or OT/PPP.

With FreePPP, you open the setup application to enter a server name, phone number, user name, and password. Open Transport PPP is similar to FreePPP in setup. Just select a modem type in your modem control panel; input a user name, password, and phone number; and click Connect.

Unlike TCP/IP software, PPP software is relatively easy to configure and use. All you need from your Internet service provider on the PPP front is the connection phone number, an account name, and a password, and you're off to the Infobahn. ■

Associate Editor David Reynolds is on a quest for the perfect, permanent bio.

FreePPP Setup

2.5v2

Connect

Not installed or selected. Make sure FreePPP extension is installed and selected then restart.

Connect to: Untitled

From: Home

☒ General Accounts Locations

Untitled

Edit...

New...

Duplicate...

Delete



Now That You're

By Joseph O. Holmes

wired

How to configure your Internet apps, where to go online, and how to get there.

Welcome to the Internet. If you've formed your image of this vast digital continent from TV and movies, you're in for a treat. The Internet is much more varied and wonderful than any show—even "The X-Files"—can possibly convey. You have to experience it to believe it. When you do, you'll be positively shocked at the incredible range of topics under discussion and on display. You could easily guess that numerous World Wide Web "sites" are devoted to "Star Trek" (too many to list!), but wouldn't you be surprised to find a site devoted to William Shatner's career as a singer (at <http://www.loskene.com/singalong/kirk.html>)? Many discussion groups focus on pet cats and dogs, but you'll also find groups on pet ferrets and hedgehogs (at alt.pets.ferrets and at alt.pets.hedgehogs).

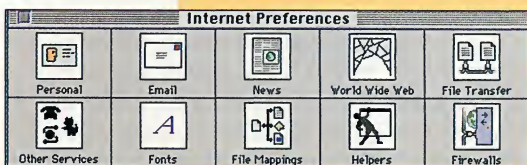
The Internet isn't a single thing; it's a whole suite of discrete but related protocols, each with a specific purpose, hosted by millions of networked computers. Unlike accessing America Online or CompuServe with a single application, you have to launch a separate application to reach each discrete part of the Internet. You launch a Web browser to visit the World Wide Web and see multimedia sites, a newsreader to stop by UseNet Newsgroups and join in their discussions, an FTP application to download files from around the globe, and a dedicated e-mail application to pick up and reply to e-mail.

The exception to this is jack-of-all-trades Web browsers (such as Netscape Navigator) that offer one-stop access to e-mail, newsgroups, and file downloading, as well as to the Web. As you might expect, though, specialized applications provide more bang for the buck.

You'll probably be most interested in exploring the World Wide Web, e-mail, UseNet Newsgroups, and FTP. We'll show you what they're each about, how to configure them, and how to use them.

Internet Config—An Online Blessing

Internet Config 1.3, by Peter N. Lewis and Quinn "The Eskimo," is a godsend. Instead of configuring settings in a dozen different Internet applications, configure Internet



INTERNET CONFIG lets you set up several Internet applications in one place.



INTERNET CONFIG e-mail contains the data to deliver your mail on time.



FIND SOME OF THE SOFTWARE mentioned on The Disc.

Config just once, then let it tell other applications what those settings are. Internet Config-savvy applications—such as Claris Mailer, John Norstad's freeware NewsWatcher, Peter Lewis' shareware Anarchie, and Microsoft Internet Explorer—read most of their settings from Internet Config.

It's easy to install. The Internet Config Extension goes in the Extensions folder, and the Internet Config application goes wherever you want to put it. Here's how to set some of the less obvious portions—remember to turn on Balloon Help for more advice within Internet Config.

This is a typical setup for e-mail.

Your e-mail address in the first text box is case sensitive—don't use capital letters unless that's exactly how your e-mail address is supposed to read. If you have a POP mail account (your Internet service provider can tell you if you do), put its name into the Email Account text box and the password into the next box. Your ISP will fill you in on the

precise name to enter for SMTP Host. Leave the Email Headers box empty unless you know what you're doing.

In the News setup box, fill in NNTP (Network News Transfer Protocol) Host with the name supplied by your ISP. In the News Username and News Password boxes, enter the same passwords you use to log onto your ISP. Again, leave the News Headers box empty unless you know what you're doing.

The Helpers box tells your Internet app which application to launch when it needs to pass off various tasks. Internet Explorer, for example, passes off FTP downloads to the application you set here. As you can see in the illustration, most are obvious—only nntp and http (HyperText Transfer Protocol) may have given you pause.

Finally, scroll through the File Mappings box to set the applications that will launch to handle the various file types that you download across the Internet (such as MediaPlayer to handle QuickTime movies, or SimpleText to open text files).

The other settings boxes are mostly self-explanatory. If you don't understand them, read Internet Config's excellent documentation, or leave them alone; that way, the worst thing that can happen is that you have to create settings in each Internet application.



INTERNET CONFIG HELPERS tell your Mac which app to use in various circumstances.

Wired...

wired

The Short, Happy Life of a Packet

Exactly how does data move across the Internet? It's not as complicated as you might think. When you dial in to your Internet service provider (ISP), your modem connects to a modem that's connected to a computer at your ISP and starts sending and receiving chunks of data called "packets." These packets typically move across your ISP's Ethernet network to a router. This router is your data's gateway to the Internet at large. Once at the router, packets get handed off from router to router until they reach the router connected to their destination. At that point, they leave the router and enter the destination network, where they find the machine with the address to which they are addressed.

To illustrate this journey, we used Bryan Christianson's freeware traceroute program WhatRoute to send some packets to an Apple site (<info.apple.com>) and to an MIT World Wide Web site (<www.mit.edu>). WhatRoute displays all the stops a packet makes on its way to its destination, and it measures the amount of time (in milliseconds) that a packet takes to make a round trip between the stop and your Mac.

Here's a look at the two routes on our Internet roadtrip and how long each hop took. This is something of a fiction, because WhatRoute reports round trips from each individual router, but it gives you an idea of how the whole trip comes together.



The World Wide Web

wired



In the last couple of years, the relatively new World Wide Web has come to represent the Internet to most folks. It's the glitzy, colorful, friendly side of the Internet, and it's where most users spend most of their time. And for good reason: The Web is where all the action is. It's where you'll find Ford and Chevrolet, Apple and Microsoft, "The New York Times" and "High Times," and the poetry assignment of the ninth-grader up the block.

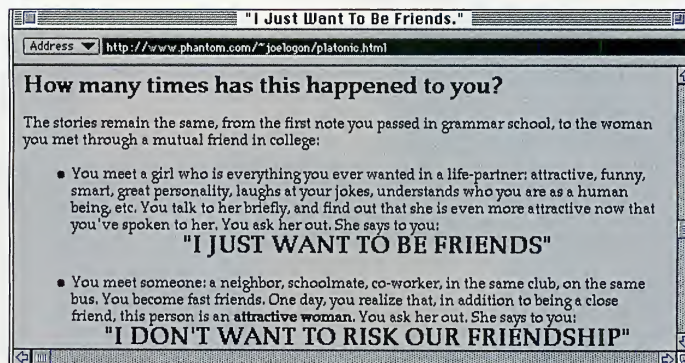
Don't laugh. That ninth grader's poetry may hold your interest far longer than the billion-dollar corporation's full-color infomercial. Many, maybe even most, sites on the Web are assembled

by folks like you and me, with nothing more than a \$20 a month account and something—anything—to say. There, in a nutshell, lies the beauty of the Web.

Unlike the plain text roots of the Internet, the Web arrives in formatted pages with colorful illustrations and attractive layouts, and marked up with hyperlinks—highlighted items on the page that, with a click, take you elsewhere on the page or around the world. Although Web sites usually resemble a glossy magazine on steroids, the Web is slowly becoming less of a spectator sport and more interactive. Forms, Java applets, and other fancy Web footwork let the action travel in both directions.

Web pages are displayed by an application known as a Web browser. The field is dominated by Netscape Navigator and Microsoft Internet Explorer, and you can't go wrong with either one. Technically, Netscape Navigator is a commercial product, but most people seem to use a free beta version or take advantage of Netscape's free license for educational and non-commercial use (at <<http://www.netscape.com/>>). Internet Explorer is simply free (at <<http://www.microsoft.com/ie/download/>>). Try both and settle on the one you like best.

PERSONAL HOME PAGES such as "I Just Want To Be Friends" can provide an original point of view lacking in the slick professional presentation of the big companies.



The URL of Sandwich

The key that opens the door to every resource on the Internet is its Uniform Resource Locator, the Internet address commonly known as the URL (pronounced like "earl"). An URL points to every Web page, file, and e-mail address on the Internet. URLs look indecipherable, but here's a quick guide to what they mean.

URL tips: Getting an error? First suspect a typo in the URL. Upper- and lowercase matters, but only in the path name. A space in an e-mail user name (joe holmes) is dropped for Internet purposes (joeholmes@aol.com). In Netscape Navigator, if you type a single word, say "apple," and press Return, the application will automatically try <<http://www.apple.com>>.

User name of addressee.

Separates user name from domain name.

Domain specifies which machine will receive your e-mail.

joeholmes@pobox.com

<http://www.interport.net/~joholmes/index.html>

The protocol tells your computer what kind of connection to make. E-mail addresses, though, begin with the user name of the recipient.

Double slashes separate the protocol from the domain name. In e-mail, the separator is an @ sign.

The domain specifies the machine to which you'll connect, or on which the e-mail recipient has an account.

Everything following the first single slash is the path to a file or directory. (Trivia: A tilde (~) at the beginning of a Web file path denotes that it's the owner's home directory.)

Configuring Internet Explorer

Both Internet Explorer (IE) and Netscape Navigator 3.x let you use Internet Config to handle most of the configuration. Here are some Internet Explorer settings that Internet Config won't set.

Internet Explorer lets you set the home page and search page, linked to the buttons on the main window's button bar. If you set the home page, however, Internet Explorer will attempt to load it every time the application launches, even if your connection to the Internet isn't open. It's probably best to leave that one blank.

Note that you can open Internet Config with Internet Explorer's IC Settings button at the bottom of the window.

To set your search page, fire up your Internet connection and go to your favorite search page. Then simply click the Use Current button. When you do an Internet search, just click the Search button on the toolbar.

Internet Explorer's advanced options can make your Web surfing much more pleasurable. Set the History to a high number so IE will remember several previous days' explorations in dated submenus under the Go menu.

The screenshot shows the 'Options' dialog box with the 'Home/Search Page' tab selected. On the left is a sidebar with buttons for 'Browser Display', 'Web Content', 'Home/Search Page', 'Font', 'Security', 'Helpers', 'Proxy', and 'Advanced'. The main area contains text explaining that the Home Page and Search Page buttons can be customized. It shows the current search page is 'http://www.hotbot.com/'. Below this are three buttons: 'Use Current', 'Use None', and 'Use Default'. At the bottom of the dialog are checkboxes for 'Use Internet Config settings' (checked), an 'IC Settings...' button, and 'Cancel' and 'OK' buttons.

IE HOME/SEARCH OPTIONS—Here's where you set your default Web pages in Internet Explorer. IE will attempt to load the home page when launched.

A browser's cache can speed Web access by saving large files, such as graphics, on your hard drive so you don't need to download them again after your first visit to a site. Internet Explorer typically keeps its cache files in a folder titled Explorer in the Preferences folder in your System Folder. You may want to store them instead on a different drive, or even on a RAM disk if you have enough RAM

(remember, though, that most RAM disks are erased when you shut down your Mac). Tip: Tell your backup application not to back up the cache files.

The screenshot shows the 'Options' dialog box with the 'Advanced' tab selected. The sidebar on the left is the same as in the previous image. The main area is divided into three sections: 'History' (with a text field for 'Remember the last 200 places visited'), 'Cache' (with radio buttons for 'Update pages' set to 'Once per session', and fields for 'Maximum size: 2 MB' and 'Current size: 1.4 MB' with an 'Empty' button), and 'Connections' (with checkboxes for 'Support Multiple Connections' checked and 'Show Server Messages' unchecked, and a 'Max Connections' field set to 4). At the bottom are checkboxes for 'Use Internet Config settings' (checked), an 'IC Settings...' button, and 'Cancel' and 'OK' buttons.

HERE'S WHERE YOU'LL SET some options that can make your surfing more enjoyable. Although the cache may help speed things along, it'll also eat up hard drive space.

Three Must-have Plug-ins

Dozens of browser plug-in files are available, but most of them are rarely used out on the Web. Here are three that you'll be glad you downloaded.

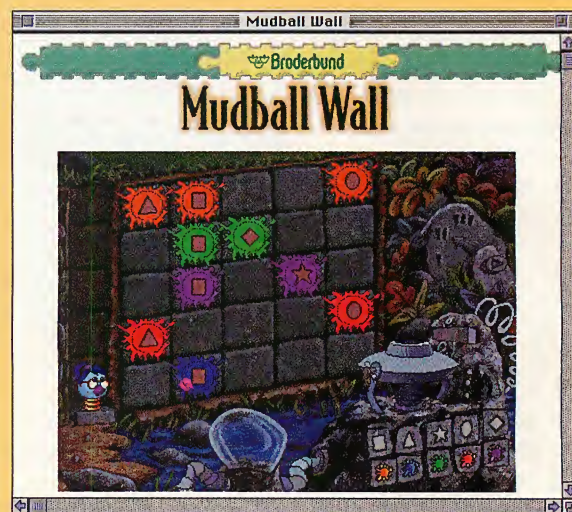
1. The QuickTime plug-in (currently bundled with Netscape Navigator 3.0 and later) plays QuickTime movies, QuickTime MIDI music, and other QuickTime files embedded in Web pages. If you also have the QuickTime VR components, you can see QuickTime VR Panoramas movies on the page. Find the latest news,

pointers to QuickTime sites, and software at Apple's QuickTime site at <http://quicktime.apple.com>.

2. The Shockwave plug-in (pick it up at <http://www.macromedia.com/shockwave/download>) plays Macromedia Director multimedia files—the same files that have animated CD-ROMs and kiosks for so long—over the Web. Remarkably, this allows for true live interactivity. You can play Tetris, for example, on a Web page. You'll run across Shockwave animation all over the Web. Macromedia's site lists many sites and also offers the latest versions of the Shockwave plug-ins. Be prepared to allocate lots of memory to your browser to avoid crashing.



IF YOU HAVE THE QUICKTIME VR extensions, you can rotate the watch to inspect the sides and back (check out <http://www.benice.it/english/index.html>).



SHOCKWAVE LETS YOU PLAY a game on Brøderbund's site at <http://www.brøderbund.com/studio/activemind/mudball.html>.

3. The RealAudio plug-in (download at <http://www.realaudio.com>) streams FM-quality audio live over the Net. You'll hear background music, live broadcasts, news, concerts, and more. Other brand plug-ins claim better sound, but none are as widely supported around the Net.

WHAT IS STREAMING?

Streaming is the ability of some kinds of sound and movie files to begin playing while the rest of the file is still being downloaded. RealAudio and QuickTime have streaming capabilities.

Get By With a Little Help For Your Browser

In addition to text and images, a site might also offer fancy accouterments, say QuickTime movies, animations, sounds, and background music. These require either helper applications or plug-ins. Helper applications are automatically launched by your browser and can be located anywhere on your hard drive. When you click on a link to a sound file, for example, the file downloads and a sound-playing application on your hard drive launches to play the sound. Plug-ins extend the workings of the browser itself, in

much the way System extensions add functions to your Mac. They live in your browser's plug-ins folder. A QuickTime movie, for example, plays right inside the Web page thanks to a QuickTime plug-in. One of the most popular plug-ins, Macromedia's Shockwave, plays animated Macromedia Director files over the Web, and the RealAudio plug-in plays music in real time. Sometimes a plug-in, say QuickTime, is supplied with a browser, but you'll have to search out and collect others on your own.

Looking for Mr. Goodsite

Imagine the Manhattan white pages, only instead of pages and pages of names, there are pages and pages of Web sites. Now imagine that this directory is in completely random order and changes continuously. This scenario explains the popularity of Web sites devoted strictly to finding other Web sites.

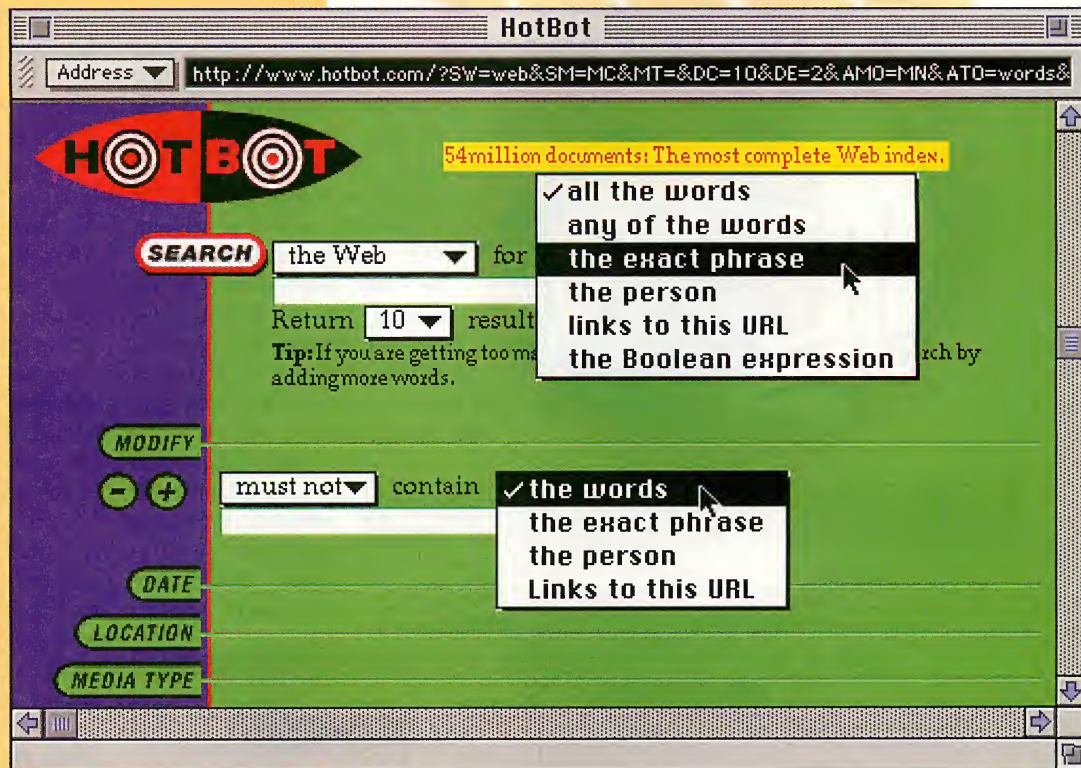
These sites come in two types: *search engines*, in which you type in a few keywords to get a ranked list of sites containing those words; and *hierarchical directories*, in which you start with a list of general categories, such as Entertainment or Computers, and click your way down through ever-finer subcategories to a list of suggested sites. As time goes on, the distinction between the two types of sites is blurring. Directory sites are adding search engines, and search engine sites are adding directories of written reviews.

One search engine worth looking at is HotBot. Settings are laid out visually, so there's no need to remember Boolean search terms—though frankly, “and,” “or,” and “not” aren't particularly difficult to recall. (By the way, you can't really drop two menus at once. We faked the illustration to show the various HotBot menu choices.)

Like all search engines, HotBot looks for your specified keywords in the text of Web pages. The most useful search requests are for “all the words” (example: “PowerBook Apple battery Macintosh”) or “the exact phrase” (“PowerBook Duo 2300”).

An especially powerful method is to list all the keywords in the Search text box and then use the Modify box to exclude certain words, thereby narrowing the results so you don't get a lot of irrelevant hits. You might include “Apple Macintosh” in the Search box, set Modify to “must not contain the words,” and put the words “tree fruit cider” in the Modify text box.

If you frequently use the Modify, Date, Location, or Media Type settings, HotBot will save the configuration so that it appears whenever you log on. Set up HotBot the way you like it and then tell Internet Explorer to keep that as your search page.



HOTBOT'S VISUAL LAYOUT helps make your Web searches a breeze.

POPULAR PLACES TO SEARCH:

Search Engines

- HotBot, <http://www.hotbot.com>
- Alta Vista, <http://www.altavista.digital.com>
- Lycos, <http://www.lycos.com>
- InfoSeek, <http://www.infoseek.com>
- Excite, <http://www.excite.com>

All-in-one Search Engines (they plug your keywords into many search engines and return the results of all searches)

- SavvySearch, <http://guaraldi.cs.colostate.edu:2000>
- MetaCrawler, <http://metacrawler.cs.washington.edu:8080/index.html>
- All-in-One Search Page, <http://www.albany.net/allinone>

Directories

- Yahoo!, <http://www.yahoo.com>
- Magellan, <http://www.mckinley.com>

E-mail

wired



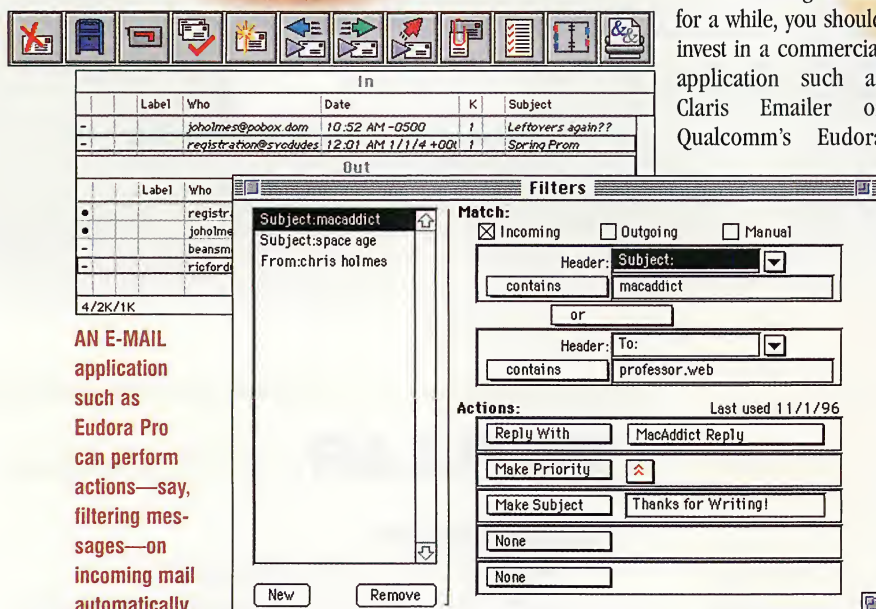
E-mail is nothing less than indispensable. Once you have had a taste of mail that arrives within an hour or so after it has been sent, you will never be happy with anything slower. E-mail can travel from virtually any online service or ISP to any other service or ISP anywhere in the world. All you need is the *exact* e-mail address of the recipient. You can find it in the header of a message sent to you, you can ask for it, or you can try one of the Internet equivalents of a phone book (see "Missing Persons," below).

Pro. Each offers many useful features (such as filters and multiple mail trays) that you won't find anywhere else, including in the limited e-mail capabilities of Netscape Navigator.

E-mail over the Internet consists of nothing but text. Formatting, color, even fairly common characters such as bullets and carets are lost or replaced by non-sense. If you send e-mail with curly quotes, as in "so," what may show up is something more like Usor. Remember to use straight quotes.

E-mail isn't just for exchanging mail with friends. It also turns out to be a great method of mass distribution. Magazine-like mailing lists include TidBITS (at <info@tidbits.com>) for weekly Mac info and Seidman's Online Insider (information is at <http://www.netguidemag.com>). Discussion-like mailing lists allow you to contribute your own postings and read everyone else's. If you're a Web-graphics designer, for instance, try Lynda Weinman's Webdesign discussion list (drop e-mail to <webdesign-digest-request@weinman.com> with the word "subscribe" in the subject header) or Guy Kawasaki's Evangelist (drop e-mail to <evangelist@macway.com>).

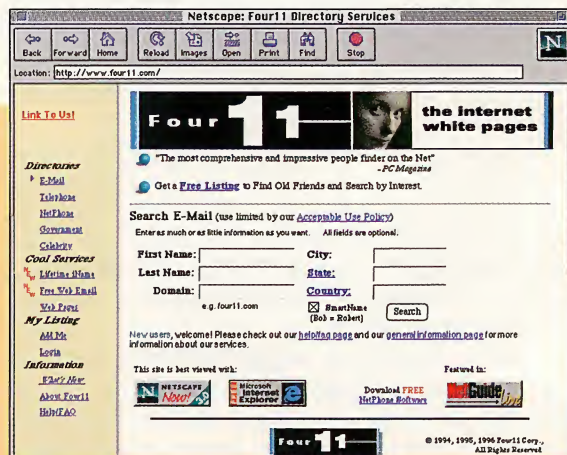
If you don't want to be flooded with dozens of mailings a day, look in the subscription information for a digest version of the list. It will mail you one message containing the most recent dozen or two messages.



AN E-MAIL
application
such as
Eudora Pro
can perform
actions—say,
filtering mes-
sages—on
incoming mail
automatically.

Missing Persons

Currently, you can find a few free services (supported by advertising) that boast indexes of millions of Internet addresses, but there's no such thing as a directory of *all* e-mail addresses. Let your fingers do the walking and check out Four11 at <http://www.Four11.com/>, Netfind at <http://www.nova.edu/Inter-Links/netfind.html>, esp at <http://www.esp.co.uk/>, and Switchboard at <http://www.switchboard.com> (which has fewer e-mail addresses but millions of names, phone numbers, and home addresses). Four11 and Switchboard give you multiple fields (such as first name, last name, and city) in which to enter data. The others give a single field in which you can type multiple search terms.



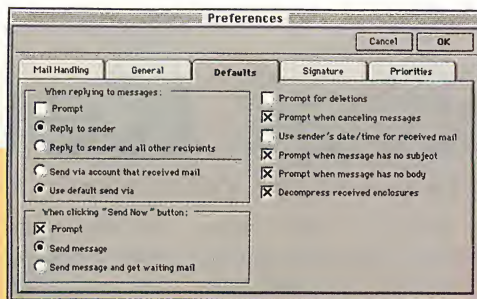
LOOKING FOR SOMEONE? Four11 may help you find that very special cybernaut.

How to Configure Claris Emailer

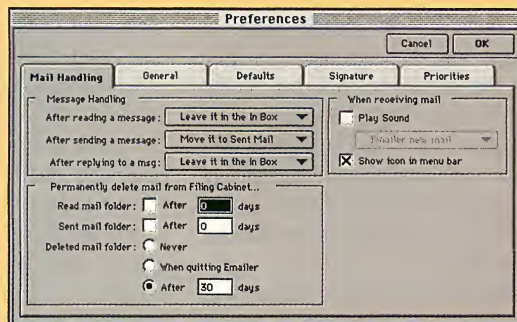
Claris Emailer 1.1v3 uses Internet Config for many of its settings but not all. Find Emailer's Preferences under the Setup menu.

Most of Emailer's settings are self-explanatory, but you should be especially careful with the setting: When replying to messages. The safest way to keep from accidentally sending a private reply to a whole list of recipients is to set this to: Reply to sender. Whenever you need to reply to all recipients, hold down the Option key as you click the message's Reply button and the option will be presented in a dialog box.

Take a close look at Emailer's Mail Handling preferences. Emailer keeps all your deleted mail in a Deleted Mail folder in its Filing Cabinet, a handy safety net for messages you need to reread later. Consider whether Emailer should delete messages after 30 days, which is the default, or keep them longer. The same principles apply to the Read Mail and Sent Mail folders.



BY SELECTING REPLY TO SENDER, you'll avoid accidental spamming.



BY SAVING DELETED MAIL for a few weeks, you might avoid a deleted mail headache.

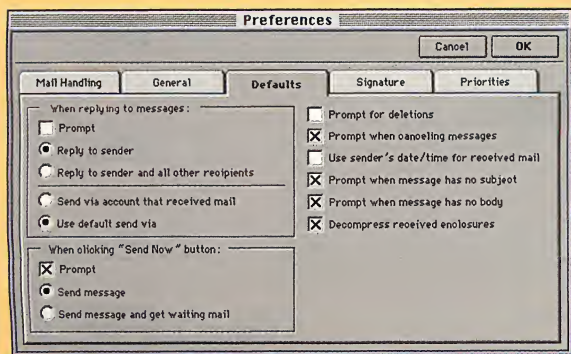
Attachments

Because the only thing that travels by e-mail is plain vanilla text, everything else attached to the text of your message—images, applications, formatted word processor documents—must be encoded by the sender into a text form and then decoded by the recipient. This process is necessary because of the Unix roots and the multiplatform nature of the Internet.

If you handle your e-mail with either Eudora Pro or Claris Emailer, a special encoder is built in. Use BinHex, an Apple-specific encoding scheme identified by the suffix ".hqx", to mail attachments to other Macs; use uuencode, a more general encoding scheme identified by the file suffix ".uu" (pronounce like "you-you"), to mail attachments to everyone else. If you send e-mail over the Internet, AOL, CompuServe, or another commercial service, you'll need to manually convert the file to BinHex or uuencode and then send it. In either case,

be sure that your recipient can decode the file at the other end.

To decode these files, use Stuffit Expander, the terrific free-ware utility from Aladdin Systems, along with its \$30 shareware add-on, DropStuff with Expander Enhancer. (Stuffit Expander alone doesn't have the tools to decode uuencoded material.)



BOTH CLARIS EMAILER AND EUDORA PRO make compressing and encoding files for the Internet much easier.

E-MAIL NETIQUETTE:

E-mail isn't as formal as paper mail, and so what's common courtesy in business correspondence may not apply. Also, certain language (such as an ironic statement) may be misinterpreted. Here are some e-mail tips:

- Don't be offended if you get mail that's typed in a hurry and without any capitalization.
- If you type in all caps, it may be interpreted as yelling.
- Use (sparingly) emoticons such as the smiley to indicate emotion and jokes in a message. :)
- Put a subject in the Subject field to save your recipient time.
- Don't spam—that is, send mail blindly to hundreds or thousands of people. Address and target your e-mail carefully, or be prepared to receive an in box full of flames.

UseNet Newsgroups

Don't let the name confuse you. UseNet Newsgroups are the Internet's discussion areas. Currently, between 10 and 20 *thousand* groups exist, each dedicated to a specific topic, where you can leave public messages and read and reply to messages from others, forming discussions that can last days or weeks. These discussions are an excellent way to get help with your Mac, pick up travel tips and recommendations, and talk about books, music, politics, and a seemingly infinite number of other things.

Unfortunately, UseNet is saddled with a confusing set of terms. Each discussion topic is called a *newsgroup*, messages

are *articles*, and an application that reads articles and posts your replies is a *newsreader*. Don't fret. If you've used discussion forums on CompuServe or AOL, you've already got the concept and skills. Just remember, don't confuse newsgroups with chat, which is a *real-time* typed conversation.

Newsgroup topics range from the frivolous (<rec.collecting.phonecards>, <alt.smokers.cigars>, <alt.tv.dinosaurs.barney.die.die.die>) to the serious (<soc.history.war.us-civil-war>, <misc.kids.health>, <sci.physics.par title>) and include everything in between (<alt.fan.barry-manilow>, <humanities.lit.authors.lewis-carrol>, <rec.arts.tv.soaps.abc>). As you can

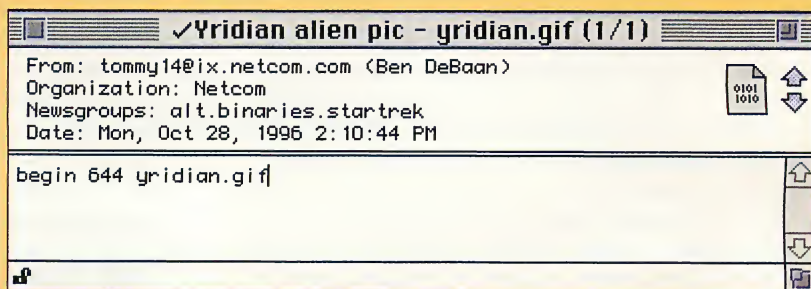
see, their titles give you a clue to the content. The prefix denotes the most general category, and each succeeding word in the title narrows the topic. Prefixes include "alt" for alternative and freewheeling groups, "biz" for commercial postings, "comp" for computer discussions, "rec" for hobbies and recreation, and "soc" for social and cultural topics.

To participate in newsgroups, you need a newsreader. An adequate newsreader is built into Netscape Navigator, but John Norstad's NewsWatcher is superior, free, and easy to use. If you want to do your newsgroup reading and replying offline, consider the commercial NewsHopper by Landware.

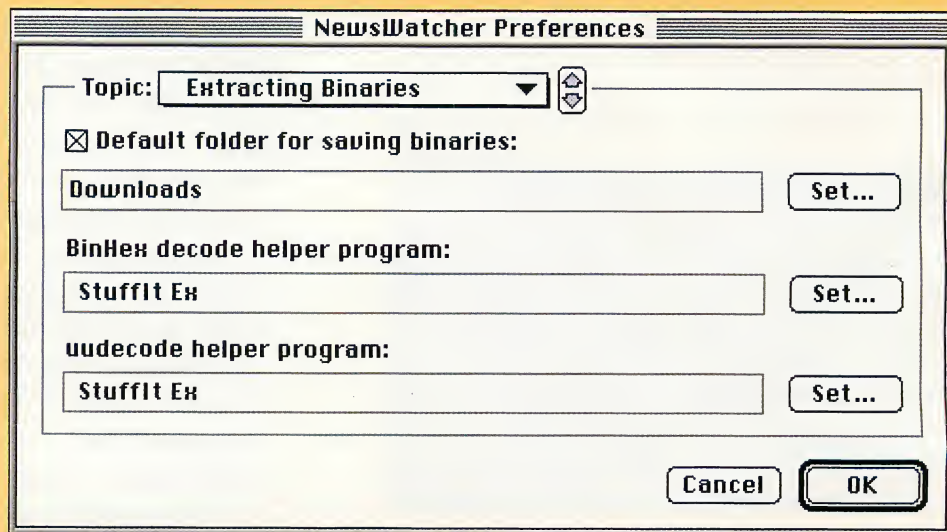
Attachments

Sometimes you'll find files attached to messages in a UseNet Newsgroup. They show up in NewsWatcher as an icon in the header of a message window. These are almost all encoded using either uuencode or BinHex.

Encoding is required because Internet protocols aren't able to transfer anything but the skimpy set of basic ASCII text characters. Binary files such as applications, graphics, and even formatted text have to be translated into sets of plain vanilla text in order to be sent and received over the Internet. At the receiving end, the text has to be reconverted into the original file. Set NewsWatcher's preferences to automatically launch Stuffit Expander and decode files.



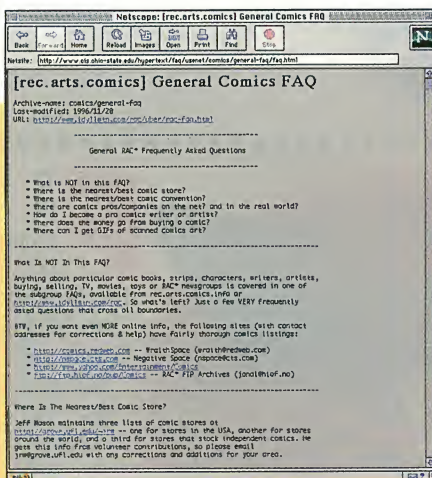
CLICK THE PAGE ICON in the upper right to start downloading.



SET HELPER PROGRAMS in NewsWatcher's Preferences dialog box.

UseNet Netiquette Notes

- Always look for the newsgroup's FAQ, or Frequently Asked Questions document, so you don't post questions that have been asked and answered many times. (A list of FAQs is maintained at <<http://www.cis.ohio-state.edu/hypertext/faq/usenet/>>.)
- Messages posted in newsgroups are delivered all over the globe. Never post a message of local interest to anything but a local group.
- Flames, those pointless heated arguments or attacks, are a waste of everyone's time—just steer clear.



**A QUICK
GLANCE at
the FAQs
may keep
you from
being flamed.**

wired

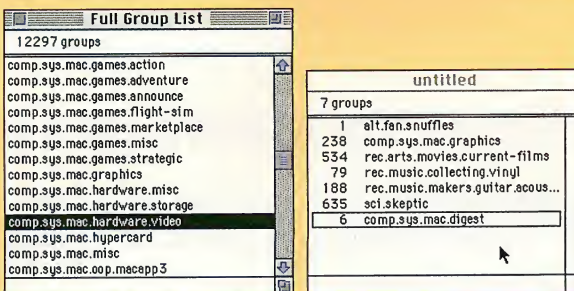
How to Configure NewsWatcher

NewsWatcher takes almost all of its settings from Internet Config. You'll find the option to use the Internet Config settings in the Miscellaneous Options preferences box. Here are some things Internet Config doesn't handle.

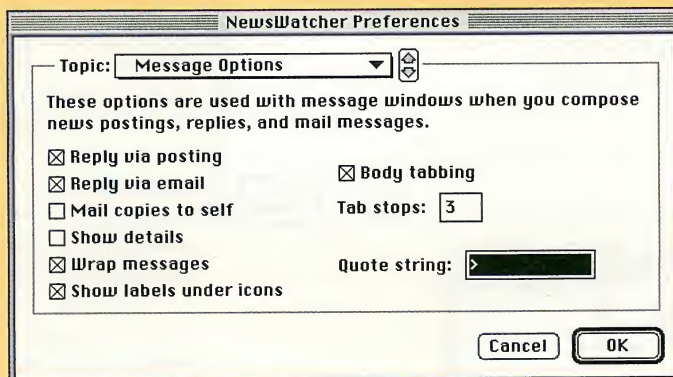
When you launch NewsWatcher for the first time, you'll see an untitled window, ready to store a personal list of newsgroups. To set up a personal subscription list, put the Full Group List and the untitled window side by side, then scroll through the Full Group List to locate the groups you like. Drag interesting groups to the untitled window.

You can find interesting groups by searching the Full Group List window with NewsWatcher's Find command. Tip: Remember that search engines such as HotBot and Excite search the contents of all the newsgroup messages for words or phrases.

Contrary to the rule on the commercial online services, it's considered polite to post a newsgroup reply both to the newsgroup and by e-mail to the sender. You can set that preference with the first two checkboxes in the Message Options dialog box. The third box, Mail copies to self, will send a third copy back to you.



MAKE A LIST of your most-frequently visited newsgroups.



BY SELECTING BOTH to reply via posting and to reply via e-mail, you'll be following an important UseNet etiquette rule.

Let's Chat

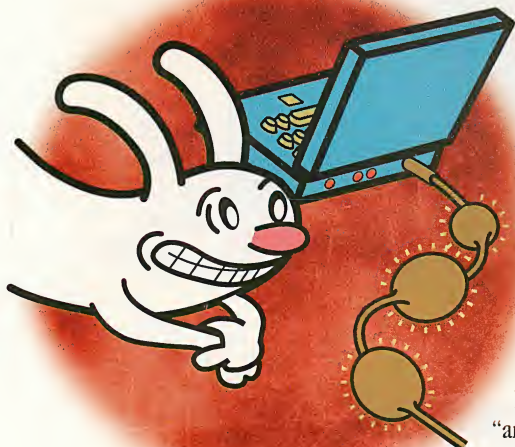
UseNet Newsgroup discussions occur over days or weeks, but if you're not good with delayed gratification, try the live typed conversation called chat. The main event, IRC, which stands for Internet Relay Chat, is complicated to set up, but once you have it up and running, it's fast and you can choose from among thousands of chat "channels." Some Web sites provide proprietary chat capabilities that are easier to use, but they offer fewer channels. WebChat Navigator at <<http://www.goodnet.com/~roberte/webchatnavigator.html>> is an introduction and points to many Web chat sites.

TIP TAPPING USENET

You can use search engines, such as HotBot and Excite, to search the contents of all UseNet messages for keywords.

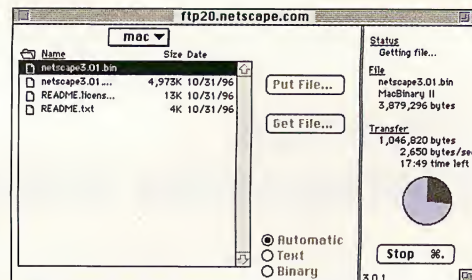
FTP

wired



FTP stands for File Transfer Protocol, and it's the method for downloading files from

sites all around the Internet. Ten years ago, I paid hard cash for a top-of-the-line 2,400bps modem for the infinitely tempting promise of FTP, and more shareware than my hard drive could ever contain. That promise remains a primary reason for going online, but the possibilities have multiplied. Today, you can use "anonymous FTP" (use "anonymous" for the user name and your e-mail address for the password) to download

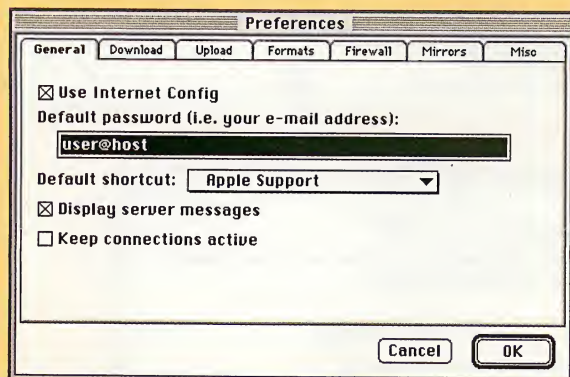


FETCH GRABS FILES and provides you with a nifty pie chart of remaining time.

shareware from public FTP sites (the most famous of which are the Info-Mac archives) as well as demo versions and updates of commercial software and working but unfinished beta versions of major packages such as Adobe PageMill 2.0, Claris Home Page 2.0, Netscape Navigator, and even Apple System files such as Open Transport and OpenDoc.

A Web browser makes a fine FTP client, but you may prefer a smart FTP application such as the \$10 shareware application Fetch.

How to Configure Fetch



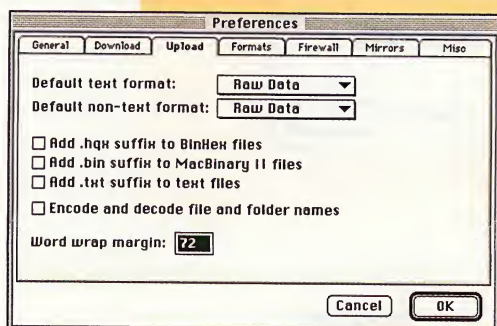
Internet Config sets almost all of Fetch's important preferences, but if you don't use Internet Config, remember that Default Password wants your e-mail address. (Fetch supplies anonymous FTP sites with the required user name "anonymous" and your e-mail address as the password.)

Unless you have some special reason, don't check the Keep Connections Active box. You'll only hog FTP sites, all of which have a limited number of connections available.

If you maintain a Web site on any Unix server—and most ISPs are Unix-based—set the Upload defaults to Raw Data, not MacBinary or Text. And uncheck the boxes that add to Web files.

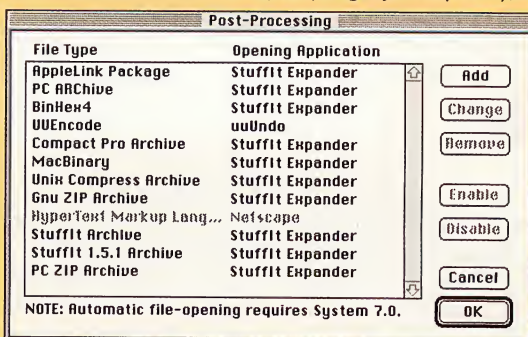
Fetch's Post-Processing preferences are also found under the Customize menu. Set Stuffit Expander to decode and expand all the various formats you'll encounter on the net. Note that Stuffit Expander won't decode most file formats unless you've also installed the excellent shareware DropStuff with Expander Enhancer. It's a steal at \$30.

When you come across the URL of a file (for example, <ftp://ftp.fogcity.com/pub>), paste it into Fetch's Open



UPLOADING AS RAW DATA through Fetch keeps Unix-based Web servers happy.

FIND FETCH'S Preferences under the Customize menu.



FETCH'S POST-PROCESSING lets the right app decode files.

dialog box, and Fetch will take you to the directory where you can download the file in a snap. Fetch is easy to use and powerful—so powerful that you can use it to handle most of the tasks of maintaining a Web site, creating directories, and uploading and deleting files.

- When you paste an FTP URL into the New Connection dialog box, Fetch automatically splits it into the right text boxes.
- Fetch won't search for files. To do that, use the Archie Internet database servers and let Peter Lewis' Anarchie do all the dirty work. Because Archie sites are overtaxed these days, you might be happier with CNET's Web-based searchable database named shareware.com at <http://www.shareware.com>.
- Before you start downloading willy-nilly and filling 10-packs of Zip cartridges, you'd best have a good anti-virus utility at your beck and call.

You can't beat the free Disinfectant by John Norstad. If your paranoia extends to alien floppy disks, try Symantec Anti-virus for Macintosh (about \$100), which will inspect every disk as it's inserted. But here's a tip: Nine out of 10 problems attributed to a virus turn out to be System problems. Viruses are actually rare on the Mac.

- It's considered polite to restrict downloading to evenings and weekends. When a site is busy, try a mirror site (which should be listed at the primary site), which keeps identical copies of all the files.

- Almost all the files you download will be compressed and coded for the Internet, so you'll want to have Stuffit Expander handy for automatically decoding and expanding files. Also, if you decompress a compressed BinHex file, you'll end up with three files—.hqx, .sit, and the final product. The .hqx and .sit files both are intermediate stages of the decoding process, so you can delete these when the file is done decompressing.
- When you have the appropriate directory displayed in Fetch's window, you can drag files directly from the Finder into the window to upload them.

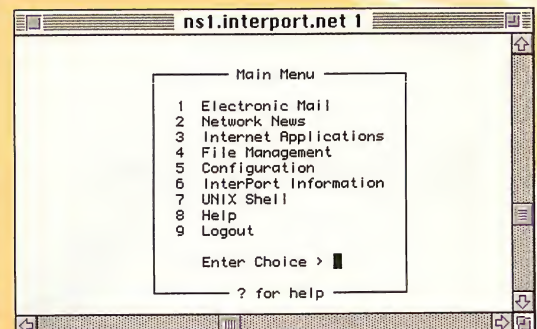
Telnet and Gopher: Two Oldies but Goodies

Before the World Wide Web, the best way to navigate through a directory of information was to use Gopher, a hierarchical navigation tool (you can spot a Gopher directory because its URL starts with "gopher:"). It's slick, but because the more popular Web now offers similar capabilities, Gopher is slowly disappearing. If you frequently use a Gopher search, you can try a Gopher utility such as Turbo Gopher. Otherwise, your Web browser will do the job.

Telnet is an older protocol, slowly becoming obsolete yet still indispensable under the right circumstances. Telnet lets your Mac connect to another computer as if you were sitting at that computer's keyboard. Typically, you'll find a command line awaiting you; before the friendlier Web, you'd

access resources such as searchable library card catalogs by typing DOS-like commands.

Those card catalogs have mostly been put up on the Web, but Telnet is still very useful. The text adventure worlds known as MUDs (Multi-user Dungeons or Dimensions), for instance, require you to use Telnet to connect to the host. Try the new freeware Telnet client NiftyTelnet at <http://andrew2.andrew.cmu.edu/dist/niftytelnet.html>.



IF YOU LIKE DOS, you'll love Telnet. It also uses a command-line interface.

Telnet Tips

Telnet can be a lifesaver for getting access to the Internet or your commercial service while traveling.

1. Let's say you're at your friend's farmhouse in rural Idaho, where the local CompuServe or AOL node is a toll call to the nearest city. Borrow your friend's account on her local ISP, then use a Telnet tool with either CompuServe Information Manager or CompuServe Navigator to connect to CompuServe (at gateway.compuserve.com) or the AOL software.

2. Or you can do the reverse. Say you're traveling far from your local ISP but you're near one of the thousands of local CompuServe nodes. Make a PPP connection on the local CompuServe number (GO INTERNET for instructions) and then use either Eudora Pro or Emailer to pick up e-mail from your provider. ☑

Joseph O. Holmes is a contributing editor to "MacAddict" and editor of the Internet and telecommunications chapters of the new edition of the "Macintosh Bible." His Web site, "Space Age Bachelor Pad Music," <http://www.interport.net/~joholmes/index.html>, has won many awards.

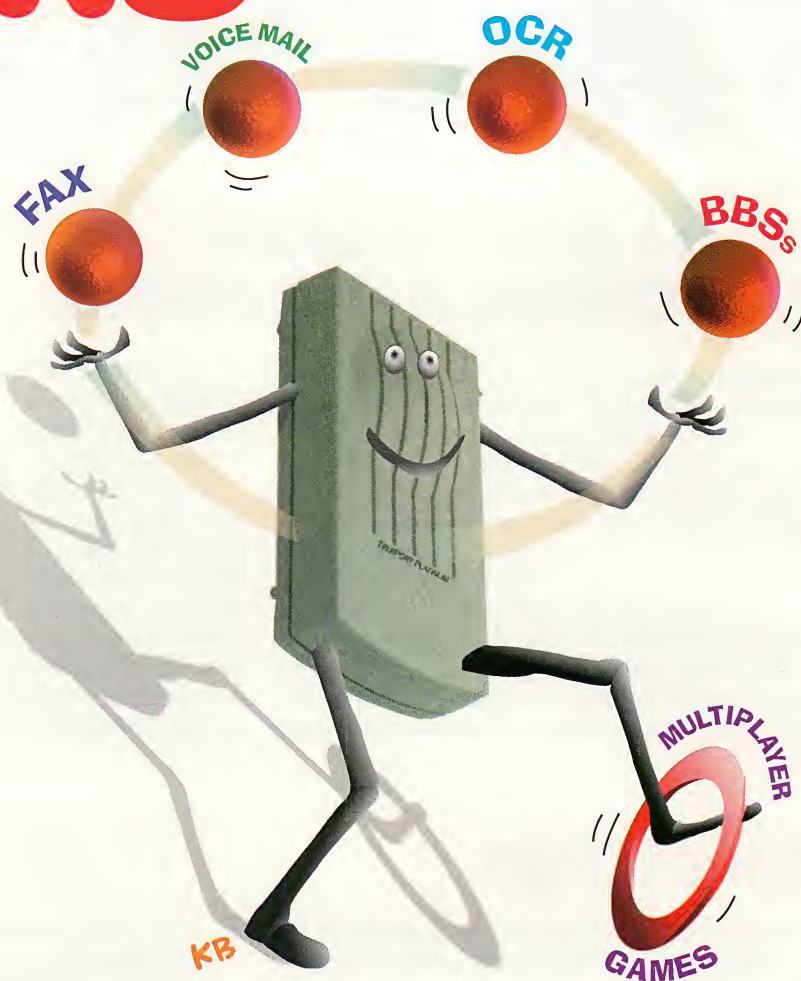


modems

Teach Your Old Modem New Tricks

Five things it
can do besides
surf the Net.

By Kevin M. Savetz



So you want to buy a modem and join the inforush, or perhaps you already have a modem but haven't the first idea about what to do with it. This little box with the blinking lights seems like magic with its power to whisk you to almost any point on the planet (although certain parts of Antarctica haven't been wired yet). And, like magic, getting your modem to behave properly can be an arcane, obscure process, what with initialization strings, speeds, and V-something standards. We'll make the technology seem less mystical by walking you through the basics of configuring your modem software. Then we'll suggest some ways to use your newfound knowledge.

Physical Stuff

Installing a modem on a Mac is the easy part. In these days of so-called “plug-and-play” modems for Windows computers, Mac owners can gloat a little in knowing that they’ve always had true ease of installation. You’ll have to check your modem’s manual for the specifics of hooking up, but basically it goes like this: Plug the power cord into the modem, plug the modem into your Mac (it doesn’t matter much if you plug your modem into your Mac’s modem port or its printer port; it just helps keep things straight), then install any software that came with your modem (which will probably be as simple as inserting a floppy disk and double-clicking an installer icon).

General Settings

Setting up your modem’s software is trickier. You’ll change several settings, enter an initialization string, and enter a dial string. All of this is done in your communications application. Every communications program is different; look for a button or menu item called “modem setup,” or something similar, to access the modem settings. This is where your modem gets the rules for the way it should act when talking to other modems—sort of the punctuation for modem language.

We’ll start with some simple general modem settings. Set the Serial Port to Modem or Modem Port (assuming you

plugged your modem into the modem port). This way, when your communications software looks for your modem, it knows where to find it. Next, set the data rate to 57,600 (57.6Kbps). Although this number is higher than your modem’s actual speed, most modern modems can speed things up by compressing information as they transfer it. Some types of information, such as text, are much more compressible than other types, such as GIF graphics files. With compression, your modem can sometimes send and receive data at higher than its maximum speed. For instance, a 28.8Kbps modem can—when dealing with very compressible data—transfer information at upwards of 50Kbps. This ability is called “effective throughput.” You may have to experiment with this setting to get the best result—newer Macs can easily handle a port speed of 57.6Kbps.

Flow control gives your Mac some control over how fast data is sent to it. If your modem (or the one on the other end) decides it’s about to be overwhelmed by the amount of data coming at it, flow control allows the modem to say, “Hold on a second while I catch up.” Under flow control, you should see two options: Xon/Xoff and hardware handshaking. Xon/Xoff is meant for low-speed modems (typically 2,400bps or slower). Turn it on if you’ll be using those speeds. If you have a high-speed modem (that is, 9,600bps or faster), turn on the hardware handshaking. This requires a special cable that has wires used strictly for flow

control. High-speed modems come with hardware handshaking cables. If your modem cable doesn’t have hardware handshaking, turn Xon/Xoff on and hardware handshaking off, then go get yourself a hardware handshaking cable.

Next, you must deal with the initialization string, which is where things can get complicated. The initialization string (or AT command set) has been the bane of modem users since computers first started talking to each other over copper wires. Your modem software uses this set of commands to set up your modem before you dial. Although most modems use a set of commands loosely based on the same “Hayes command codes” created for 300bps modems, every type of modem has its own delicate differences. These commands are as powerful as they are obscure, and you can cause some problems if you don’t know what you’re doing.

That said, these commands may be your salvation if your modem is acting flaky. Here are a couple of command strings to try: AT&F and AT&F1. These are the two most common ways of resetting a modem to its default data mode. They tell the modem to “just move data; don’t get fancy.” Type one of these lines into the modem initialization string box in your modem setup dialog box, then try to connect. If your modem still won’t connect, it may be time to drag out the manual and see if it sheds any light.

Other useful initialization strings don’t directly affect how your modem

modem setup part I

The place where your modem is plugged into your Mac.

Initialization string goes here.

Deinitialization string goes here (sets modem settings after a call). Not commonly used.

This string disables call waiting.

This string dials an outside line and then pauses.

This string dials “1” for long distance.

The length of time (in seconds) that your modem will wait before it decides the connection won’t go through.

Serial Port: Modem Port ▼

Modem setup strings:

Initialize: AT&F

DeInitialize:

Dial Substitution:

•1 *70,

•2 9,

•3 1

Dial Timeout: 60

☐ Pulse Dial

☐ Hardware Hangup (DTR)

OK **Cancel**

Phone number to call goes here.

This string is dialed before the phone number. The string dials an outside line, then pauses.

User name goes here.

The connect speed; set at 57600.

Usual settings: data bits, 8; stop bits, 1; parity, none.

Check to echo keystrokes on your screen.

User password goes here.

modem setup part II

Service Name: Bill's BBS

Phone Number: 555-1212

Pre-dial init: 9,

Account: Guest5 Password: *****

Data Rate: 57600 Data Bits: 7

Parity: None Stop Bits: 1

☐ Local Echo

Flow Control: ☐ Ron/Hoff ☒ Hardware Handshake

OK Cancel

HOT TIP

The AT portion of a modem initialization string tells the modem to pay attention to the next command. What follows is the command itself. For example, "M1" means turn the external speaker on, and "&F" means reset to factory settings. See your modem's documentation for more AT commands, or visit the manufacturer's Web site for modem scripts.

connects. If the buzzing and beeping that your modem makes when you connect scares the cat and wakes the children, type "ATM0" in the command string to turn off the speaker in your modem. If you want to turn it back on, replace that string with "ATM1."

Thankfully, many programs include a large set of initialization strings. Just tell the program what type of modem you have (typically through a pop-up menu), and it will enter settings for you properly. These files are called modem scripts, and Apple is currently developing a utility that will help you create modem scripts for use with Apple Remote Access and Open Transport/PPP if no script is available. That way, you won't have to fuss with initialization strings for those applications.

Now it's time to set how your modem dials and what number it dials. Enter

the number you want to call in the phone number box. You can enter certain numbers in front of the phone number (or in the predial box, if your modem software offers this) so that your modem will modify the kind of phone call it makes. Three dialing strings are particularly useful. They cause the modem to pause while dialing, to dial out, and to turn off call waiting.

Pausing While Dialing

The comma delay is probably the single most useful dial string command. It tells the modem to wait two seconds before proceeding with the rest of the dial string, and you can place it anywhere in the telephone number. One example of the comma's strength is in using a long-distance calling card with your modem. Many calling cards require that you dial a phone number, wait for a tone, enter a code, wait for another tone, and finally

enter the number that you wish to dial. By carefully using the comma delay in your dial string, you can make this process relatively painless. So, for example, entering the number 02125551212,,,,,70755512349999 in the dial box will dial a long-distance number, wait eight seconds, then enter a calling card code.

Dialing Out

Remember, not all telephone systems are alike, especially in offices and hotels. Depending on where you are, you may need to dial a special digit (usually an eight or nine) to get a telephone line to the outside world. To do this, just enter the digit followed by a comma—for example, "9,"—before the phone number. This will cause your modem to dial a nine for the outside line, wait two seconds, and then dial the telephone number.

HOW

MODEMS WORK

Modems work by converting digital data—your e-mail message, Web page, and so on—into sounds that can be sent over a telephone line to another modem. When that modem sends information back, your modem converts the sounds back into digital data that your computer can understand. Tech heads call these processes "modulation" and "demodulation," words that (you guessed it) make up the word "modem."

COMMON STRINGS A BRIEF LIST

Initialization Strings

- AT&F—Resets your modem to factory settings. Try this if you can't make a connection.
- AT&F1—Also resets your modem to factory settings. Try this if AT&F doesn't work.
- ATM0—Turns off your modem's speaker.
- ATM1—Turns on your modem's speaker.

Dial Strings

- *70,—Turns off call waiting for the duration of the call.
- , (comma)—Makes the modem pause for two to three seconds.

Turning Off Call Waiting

If you have call waiting, you'll find that the little beep that indicates an incoming call can wreak havoc on your connection, slowing it down or knocking you offline completely. In most areas, you can temporarily disable call waiting by having your modem dial "*70,"—that's star seven zero comma—before the phone number. After the modem call is finished, the call waiting function will return to normal.

The Details of Connections

The last things to fuss with are the settings for data bits, stop bits, and parity. These settings tell your modem how to send chunks of data. The data bits field (set at either seven or eight) tells your modem how many bits to send before sending a stop bit (set at either zero or one), which is merely a signal saying, "OK, this chunk of data is done; get ready for another." Parity is a way of checking for errors in the data that was sent. The most common settings are: data bits, 8; stop bits, 1; and parity, None. Don't change these settings unless told to do so by the person on the other end of the modem connection.

Old Modem, New Tricks

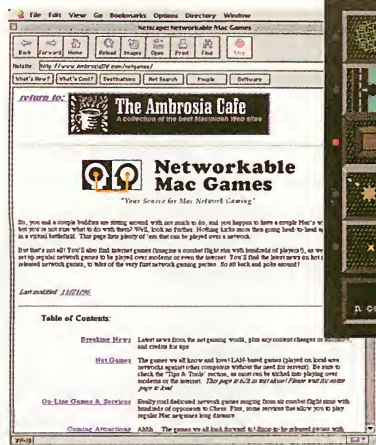
Believe it or not, your modem is multi-talented. If you're using it to dial up the Internet, you're getting access to an incredible amount of information and countless communities. Even so, your modem can give you more. Depending on the kind of modem you own, you may be able to use it as a fax machine, as a personal voice mail system, or even to play games in real time with faraway friends.

Your modem's life is bigger than the Internet. If your modem currently is a one-trick pony, here are new tricks you can teach it.

Multiplayer Games

Why sit home alone playing a computer game all by yourself when you can sit home alone playing a computer game with someone else? A plethora of Mac games let you dial up a friend who also has that game to play together, competitively, or in cooperation.

Although online gaming can be loads of fun (no game-generated intelligence



LET THE GAMES BEGIN: The Ambrosia Web site offers a plethora of info about online games, of which the ever-popular Bolo is one.

can match the cunning of a real, live human opponent), it can also be frustrating not to have the other players within shouting distance. Some games let you type to "chat" with other players while you're online, which is an essential tool for certain psychological tactics.

Online games come in two flavors: those that make direct modem-to-modem connections and those that you play over the Internet. The modem-to-modem games allow only two players, but many Internet games allow a dozen or more players at a time.

Try Lode Runner Online, an updated version of the 1980s classic run-and-shoot game; Doom, a popular 1990s run-and-shoot game; Oxyd, a challenging puzzler; or Bolo, a tank game. You can find a list of many more games to play over a modem at the Web site <<http://www.ambrosiasw.com/netgames>>. This site also includes a ton of information to familiarize you with how online gaming works.

You may also want to consider the software program Kali for the Macintosh. Kali is shareware that fools your game into thinking that it's connected to a large IPX network. Games that can use the Kali network include Descent, Descent 2, Warcraft, Warcraft II, Command & Conquer, Apache, Terminal Velocity, and VR Pool. Go to <<http://www.kali.net>> for more information.

Getting a game up and running is only half the battle. You also need someone to play with. Check out the UseNet newsgroup <comp.sys.mac.games> to find other gamers who share your passions, or hook up to one of the Internet Relay Chat channels to find a worthy opponent.



modems

HOW TO BUY A MODEM

If you're thinking about buying a modem, consider these features:

BUY THE FASTEST MODEM YOU CAN AFFORD. If you can't afford a 28.8 or 33.6Kbps modem, don't hammer the piggy bank until you can. You'll be glad you waited.

GET A MODEM THAT USES AN ACCEPTED COMMUNICATIONS STANDARD. When you buy a modem, you'll find a list of the protocols that it supports. Sometimes modem manufacturers rush to get faster modems on the market before the final draft of a new protocol is finished. If you buy one of these modems, you may find that it doesn't work at its highest speed with other brands of modems.

As you might expect, modems need to understand each other in order to communicate effectively. Thus, an international standards committee helps to define the protocols that modems use to communicate. By carefully sticking to the protocols, manufacturers can be sure that their modems will communicate with other brands.

MAKE SURE THE MODEM OFFERS THE V.34 STANDARD. It will run at 28.8Kbps, maybe faster. Recently, the V.34 standard was enhanced to allow connections at up to 33.6Kbps, so depending on when it was manufactured, a V.34 modem might max out at 28.8 or 33.6Kbps.

AVOID NEW MODEMS WITH THE V.FC OR V.FAST PROTOCOLS. V.FC was a temporary specification for 28.8Kbps modems used before the V.34 standard was hammered out. V.FC modems tend to be less reliable at high speeds than V.34 modems, but many V.FC modems are upgradable to V.34 at little or no charge.

DON'T WAIT AROUND FOR A 56KBPS MODEM. Several companies have announced them, but these modems work at high speed under only very special circumstances, and it's too early to tell if they'll be worthwhile for everyone.

Local Bulletin Board Systems

Bulletin board systems, or BBSs, are private computers into which you dial. Smaller and more intimate than online services, a BBS may be run out of someone's office, bedroom, or basement. Bulletin board systems offer message boards, live chat, electronic mail, file downloads, and online games—but most important, they bring a sense of community to the people online in your geographic area.

Depending on the system on which it runs, a BBS's look and feel can be anything from a text-only command-line interface to a full-fledged graphical Mac interface. Many bulletin boards, such as those using FirstClass or TeleFinder software, have special client software that allows users to access the BBS using a graphical interface.

Bulletin boards often focus on a particular organization—for instance, a user group—or a hobby. Tens of thousands of BBSs operate around the country, and there's no telling what you might find on one in your area. Here's how to locate a BBS and a few of the things you can do there:

- Ask at your local user group meeting or computer store for a list BBSs in your area, and see what your local online community has to offer.
- Use a BBS's unique local angle to your advantage. If you need a computer consultant to exorcise

your old PC, or want to sell an old car, it makes sense to use a BBS to find someone nearby.

- Some BBSs offer free access to electronic mail, which can be a great way to introduce your kids (or spouse or parent) to the Internet without overwhelming them with the details.

Office Tools

Unless your modem is more than a few years old, chances are good that it includes fax capabilities. That is, your modem and computer together can send and receive faxes over the phone line. This can be an inexpensive way to send information to colleagues who don't have electronic mail access. If you would like to receive faxes regularly but don't want to invest in a fax machine, your fax modem can do the job. Sending and receiving faxes from your Mac can save paper and money, but it has drawbacks, too. You'll find it impossible to fax a signed contract, for example, unless you have a scanner. Also, to be able to receive faxes at any time, you'll probably have to leave your computer humming 24 hours a day.

Even if your modem includes the ability to transmit and receive faxes, it won't do a bit of good unless you also have fax software for your Mac. Many fax modems come with fax software, some don't. (And if yours did, it may be a "lite" version with crippled features.) Here are some tidbits about a modem's office uses:

- Some fax software includes built-in optical character recognition (OCR) capability to turn graphical faxes into text files that your word processor can read. Even if your software doesn't, you can try using OCR software to read your faxes into your word processor.
- If you expect to receive many faxes, consider installing a second phone line dedicated to the fax modem. If you'll be receiving faxes at all hours, you don't want the family phone ringing at 3 a.m.
- Use your fax software to create customized cover sheets for your personal and business faxes.
- Don't have a scanner? Use your office fax machine to fax graphics and text to your computer's fax modem for quick-and-dirty grayscale scans.

If your modem is equipped for it, you can even use it as an answering machine or voice mail system. Depending on the hardware and software you have, your modem may be able to take messages and play them back through your Mac's speakers, or you may be able to set up a more complex system replete with multiple mailboxes ("Press one to leave a message for Bob, two for Zoe, three for Sparky the dog..."). Don't plan on replacing your company's 50-line voice mail system, though, because a voice mail modem can handle just one phone line at a time. Some configurations allow you to call in from anywhere to retrieve your messages, and even accept both fax and voice messages on one line.

Voice-compatible modems aren't as common as plain vanilla fax modems, so check with the manufacturer to see if yours can handle the job.

Some voice modems even double as a speakerphone, allowing you to chat hands-free over the phone—not while you're online, though. If your modem and your phone company offer the Caller ID service, you can arm yourself with the foreknowledge of who's calling before you even pick up the receiver. Using special software, Caller ID puts the phone number of the calling party on your Mac's screen a split second before the phone rings. (This is a great way to avoid calls from an angry boss who wants to know why your work is late... not that you'd ever do that.) To perform this trick, you'll need Caller ID from your phone company, which probably will cost you a few dollars each month. Here are some uses for this particular wizardry:

- Use a voice-capable modem to set up multiple voice mailboxes for family members or employees in a small office.
- Use Caller ID to screen calls from your ex-girlfriend, mother, or other *persona non grata* in your life.
- Be sure to use a good-quality microphone for recording voice mail or using your modem as a speakerphone, to avoid sounding like a Munchkin locked in an echo chamber. ☒

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BMUG BEGAN LIFE as Berkeley Macintosh Users Group and has since grown into one of the largest BBSs in the United States.



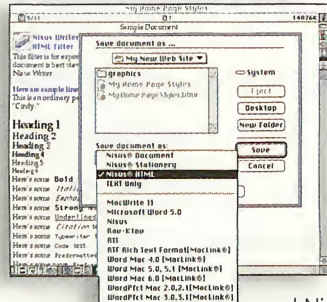
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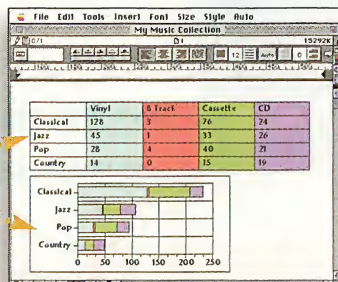
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Multilingual Support

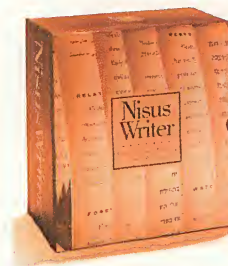
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This Old Mac: SE/30

old mac

By T. Kelley Boylan

Last month's column covered the Plus and, by association, the SE. This month it's time to look at upgrading and using an SE/30. The SE/30 looks like the SE to the uninitiated and is occasionally confused with it, but the two machines are worlds apart: The SE/30 is, technologically, far superior to the SE.

The SE/30 is still one of the most reliable, functional Macs ever built. It's compact enough to fit under an airplane seat and fast enough to run major software. It just might

give you your desk back, too, allowing you to clear away big CPU cases and masses of monitors, cords, cables, etc. If you have, or know someone who has, an SE/30 stashed in the cellar, pull it out. A used one is worth between \$400 and \$500, and it's a remarkable machine. An SE/30 can do everything any other '030 Mac can do, from the IIcx through recently discontinued Performas, just not as quickly.



FIND
SHAREWARE
and demos
on The Disc.



CHECK THE
WEB SITE for
helpful links.



More Sources for Old Macs...

- Use your favorite search engine to search for "used mac"
- Subscribe to the newsgroup <comp.sys.mac.forsale>
- Look in local newsgroups; e.g., <yourcity.forsale>
- Peruse the phone book under, "Computers, Used"
- Watch the newspaper's "for sale" section
- Ask around—you may be surprised by how many people have old computers stashed in the closet that they'll just give away

What You Have to Work With



The SE/30 was the first 32-bit, 68030-based Mac with a floating-point unit (FPU), color QuickDraw, and a SuperDrive (1.44MB floppy). What this means is that the SE/30 is in many ways a more modern Mac than you might otherwise think. (The SE also had a SuperDrive in later models, replacing the old 800K drive but it didn't include the SE/30's other advances.) Given that, you have a lot to work with.

1MB of RAM installed on the motherboard. There's also room for up to 32MB total, with caveats.

A nine-inch, black-and-white display. Since the SE/30 supports color QuickDraw and includes an internal slot, you can upgrade the SE/30 to support an external color monitor.

A 68030 processor with a built-in FPU that speeds mathematical calculations. (Older Macs had to use slower, software outlines to perform floating-point calculations.)

A processor-direct slot (PDS). This slot lets you add cards that give you extra functionality—say, an Ethernet connection, an external monitor, or an accelerator.

Room for an internal drive. The SE had an extra internal storage bay, but the Plus didn't. The SE/30 has an internal storage bay that supports any half-height drive. (The bay, however, isn't accessible from the front of the Mac so you can't add removable media drives such as a CD-ROM drive or a Zip drive.)

What To Do About Hardware



RAM: Apple told a little white lie when it built the SE/30 (and other early '030

machines). It claimed that the machines would be easy to upgrade to 32-bit clean status so that they could address far more than 8MB of RAM. But the easy upgrade never happened. Fortunately, there's a fix.

If you install more than 8MB of RAM in an SE/30, you'll find that your System software suddenly takes up the rest of the memory. Find out by checking About This Macintosh or its System 6 equivalent, About the Finder, in the Apple menu. It will say that the system is using 10MB or 15MB instead of 3MB to 5MB. The system is simply unable to address the additional RAM properly.

To resolve this issue, you need either the Mode32 control panel from Connectix or Apple's 32-bit Enabler extension. Mode32 is on The Disc and it's easy to find on the Internet for free. Locations include <http://rever.nmsu.edu/pub/mac-faq/mode32.sit.bin> and <http://mac.archive.umich.edu/system.extensions/cdev/mode32.sit.hqx>.

[//mac.archive.umich.edu/system.extensions/cdev/mode32.sit.hqx](http://mac.archive.umich.edu/system.extensions/cdev/mode32.sit.hqx). Apple's 32-bit Enabler extension is also on The Disc and at http://mirror.apple.com/mirrors/Apple_SW_Updates/US/Macintosh/System/Other_System/32-Bit_System_Enabler_1.0.3.sea.hqx.

WARNING: Mode32 version 1.2 and System 7.5 don't get along. Using them together may corrupt data, so if you're using System 7.5 or higher, be sure to use Mode32 v7.5. It's on The Disc and you can download it from <http://sumex-aim.stanford.edu/info-mac/cfg/mode32-75.hqx>.

Installing RAM is a little trickier than just filling slots, however. Here are some tips to keep in mind when adding memory to your SE/30:

1. An SE/30's SIMMs must be installed in groups of four that are the same size; for example, four 4MB SIMMs and four 1MB SIMMs. (There are eight slots total, and they each accept 30-pin SIMMs.) Don't mix and match SIMMs of different sizes or the Mac won't boot.

2. The eight slots are divided into two banks, A and B. Install the higher-volume SIMMs in Bank A. It sets the standard for Bank B. For example, if you install 1MB SIMMs in Bank A, your SE/30 will wrongly assume the SIMMs in Bank B are also 1MB, regardless of their size.

3. You can't use 2MB SIMMs. The SE/30 can't see them, an oddity of its logic-board design. It will recognize 256K, 1MB, or 4MB SIMMs; 32MB is the total amount of memory that an SE/30 will recognize.

Storage: An SE/30 has room for a 3½-inch, half-height drive; for example, a 1GB, 2GB, or 4GB hard drive, a magneto-optical drive, a Jaz drive, a Zip drive, or a Syquest 270 drive. This expansion capability is one reason why this Mac is so popular. CD-ROM drives plug straight into the SCSI port. With a multi-gigabyte drive inside, and two or three large drives on the SCSI port, an SE/30 is a conveniently small and easily maintained server.

Display: The display is another bonus to the handy SE/30. It's small. Sure, it's fun to have a big color

monitor, but if you travel or are using the SE/30 as a server, that big monitor's a pain. The advantage for travel is obvious—it's like having a fat, non-battery-powered laptop.

As a server the SE/30 shines. Most modular Macs won't boot without a monitor attached. You have to leave the monitor with the machine while it runs unattended in a closet. That's waste, and waste is not good. A nine-inch, black-and-white display is more than enough to handle server applications, so there's no need to leave a \$300 color monitor on a machine that hums along alone in a closet.

Video: An SE/30 can support more than a nine-inch, black-and-white display. The internal PDS makes hundreds, even millions, of color possible via an external monitor. Buy a board, plug in a monitor, and *voilà!*

Color: Several companies manufacture this magical device, so when you call used-hardware vendors, ask about these products:

- E-Machines T-19 monitor
- MegaGraphics MegaScreen monitor
- Micron Xceed SE/306-48 and SE/3010-78 cards
- RasterOps 264/30, 708+/30, and 108+/30 cards
- LapisColor 16 and LapisColor 24 cards

Don't expect to buy a brand-new card. The SE/30 has been out of production since 1991, and several of the card makers are dead and gone. RasterOps' Web site has a few specifications for the company's long-dead line of cards and monitors—resolution, display size, etc. Though it was discontinued some time ago, Micron only recently sold its last Xceed card. Also, be sure the card you buy supports the internal display. Not all cards support it, leaving a perfectly good nine-inch display dark and useless while an external display is up and running.

Modem: Any external modem will do, Mac or PC. A modem is a modem, but do invest in a hardware handshaking cable. It will speed file transfers by 10 to 15 percent. You'll want at least a 14.4Kbps modem,

Hot Tip:

Apple keeps up with its own old hardware. For specs on every Mac ever made (but not being made anymore), go to <http://product.info.apple.com/productinfo/data-sheets/dt/dtarchive.html>.

old mac

Hardware Sources

Accelerators

DayStar Digital
770-967-2077

<http://www.daystar.com>

MicroMac Technology
800-600-6227

<http://www2.earthlink.net/~micro-mac/compactmacs.html>

Mobius
800-662-4871
<http://www.mobius.com>

Brainstorm
415-988-2900
<http://www.brainstorm.net/xel>

MacGalaxy
608-238-0606
<http://www.macgalaxy.com/pages/store/hardware/boards.html>

Sonnet Technologies
800-786-6260
<http://www.sonnettech.com>

Ask about Dove, NewLife, and Novy Systems when you call used-hardware vendors (see the next page for contact information). They no longer make the boards you want—or are out of business—but their products are still around.

Video

RasterOps
800-729-2656
<http://www.rasterops.com>

XCEED Technology
800-642-7661
xceedtech@aol.com

Networking

Farallon Communications
800-759-7761
<http://www.farallon.com>

Getting Grayscale on the Built-in Monitor

Xceed, nee Micron, used to make an adapter that let the SE/30's internal nine-inch monitor display 256 grays all by itself. If you're making only one modification, this is it. You'll need to call used-hardware vendors to find one of these cards.

If you install the XCEED adapter and attach an external display, the internal display goes back to plain black and white, but it's still useful. The entire color display is available for documents and images, leaving the nine-inch screen free for palettes, notes, e-mail, and the like. The smaller monitor is an extension of the larger, just as in any other Macintosh multiple-monitor setup.

Hot Tip:

Because prices for the parts you need to upgrade your SE/30 vary widely depending on the exact features you need and availability, we suggest you make a shopping list (including installation help) and price it out before starting on the upgrade path. That way, you'll know in advance if your total costs are more than you can—or want to—pay.

Used Hardware Sources

Contact several vendors when you shop, and ask about warranties and return policies, just in case. This list isn't comprehensive, but it's a good place to start.

The Computer Exchange
800-304-4639
<http://www.compexch.com>

DataTech Remarketing
800-281-3661
datatecrem@aol.com

GE Capital
800-431-7716
<http://www.ge.com/capital/commequip/es>

Hawke Business Systems
800-875-2610

Mac•Res•Q
510-689-9488
<http://www.macresq.com>

MacSale International
800-729-7031
<http://gn2.getnet.com/macsale/index.html>

Pre-Owned Electronics
800-274-5343

Sun Remarketing
800-821-3221
<http://www.sunrem.com/sunrem>

and they cost about \$50 these days—shop around.

Printer: The SE/30 is like any modern Mac. Pick a printer, plug it in to the serial port, and go. Make sure you have enough RAM to handle the driver.

Networking: AppleTalk is standard, and a PDS card provides Ethernet easily. Contact Farallon or

other networking companies for the appropriate Ethernet parts. (See "Hardware" and "Used Hardware" sidebars for a list of sources).

Accelerators: An SE/30's processor can be upgraded to a fast '040, but it can't be upgraded to a PowerPC. And that's not so bad. Most applications don't need vast speed. As long as you're not ren-

dering 3D images, creating digital video effects, and trying to play the latest, greatest shoot-'em-up games, you're fine.

Fans: Even with optional cards and accelerators installed, the built-in fan is more than enough. Unlike those in the Plus, SE/30 power supplies and internals are a hardy bunch.

What To Do About Software**Application software:**

Because the SE/30 has the power to run most of the major productivity software programs, install what you need. Be aware, however, that Adobe Photoshop won't exactly zip by, and Microsoft Word 6 won't be blindingly fast (is it ever?). Using less resource-intensive applications—such as ClarisWorks, Nisus, Microsoft Works, or Word 5.1a—is a good idea.

If you're doing image editing, you'll need a display card for color or at least grayscale. The same applies to Internet software; install what you need, but remember that Web pages on a black-and-white,

nine-inch monitor may lack a certain *savoir-faire*.

System software: With an SE/30 you can take your pick from among several versions of the System software. System 7.5.2 is not universal, so stay away from it, but any other will do. For the sake of convenience, we suggest that you go with System 7.5.5. (Since System 7.6 may not run on the SE/30 and other older systems, you might as well have the next latest thing.)

Games: If you have a color monitor attached to your SE/30, your only limitation to installing and playing any game you want is processor type and speed. Since an SE/30, even when upgraded, won't have a PowerPC processor, you

won't be able to play today's more demanding games such as Marathon or A-10 Combat.

If you don't even have a color monitor, hit up any number of game sites for black-and-white, nine-inch games (see our Web site for links to sites where you can download games.) Plenty of games don't need a splattering of hues to be great fun. We suggest trying <ftp://ftp.funet.fi/pub/mac/games> and <http://www.astro.nwu.edu/lentz/mac/recreation/classic-mac-games.html>.

An SE/30 is a great machine that can easily have a useful life for years to come. If you have one you don't want, put it up for sale—it'll move fast.

Upgrading Your SE

An SE can be upgraded to an SE/30 by swapping the logic board. Order an SE/30 logic board from Apple, part number 661-0527, and swap it with the SE's original 68000-based board. It's not a swap for the weak at heart and entails some serious connecting and disconnecting of connectors, and the risk of getting an electric shock by touching the cathode ray tube (CRT). If you're wary of installing the logic board yourself, get a dealer to help.

Some older SEs may not have quite the right internals for a simple board swap. The metal chassis that holds the logic board has holes in it, and through those holes the wiring

must pass. Old chassis have small holes, too small for an SE/30's wiring harness, and cards for the processor-direct slot (PDS) won't fit, either. The former is a fairly easy fix—drill a bigger hole for the harness. If you need to add a PDS card and you have one of these older SEs, we suggest buying an SE/30. It's a less expensive, more efficient fix.

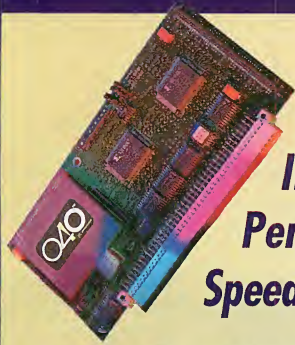
Swapping the logic board, however, won't give you a new floppy drive. Pre-SuperDrive SEs, with an 800K floppy drive will work fine for everything we've detailed here. A 1.44MB SuperDrive is more useful, but if you're on a budget, let it go. You'll likely be using a hard drive for storage anyway.

If you want a SuperDrive, call the used-hardware vendors and start shopping. Ask if you can trade in your 800K drive. The actual part swap is easy—one connector and a screw or two.

If you'd prefer to leave your SE as an SE, it can do things its little brother, the Plus, can't. Its single expansion slot was the first Mac expansion slot ever, and that gives it access to external video, or Ethernet, or any one of several upgrade cards. Contact the accelerator and network companies listed for details. ☐

T. Kelley Boylan has co-authored several books and articles, and is a Mac administrator when he's not writing. He owns and uses Macs exclusively.

Run Your Mac Faster and Save!



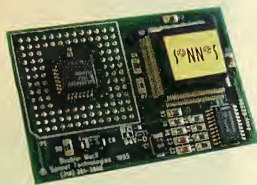
**Accelerate Mac LC,
LC II, Color Classic,
IISI, IISI, IIVx, or
Performa 600 to '040
Speed Starting at \$199**

Sonnet Presto™ LC 040 50/25 MHz accelerators increase Mac LC, LC II or Color Classic performance 470% as fast as a stock machine (processor performance, MacBench2). Use RAMDoubler or Virtual Memory to break the 10MB barrier with the Presto LC (except Mac LC, OS 7.1+ req'd). The Presto LC is only \$199, or with hardware Floating Point Unit (FPU) \$249.

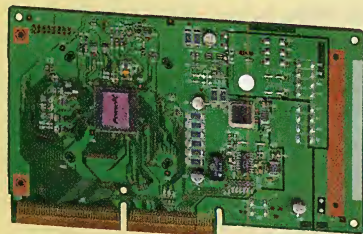
The 80/40MHz version for the Mac IISI*, IISI, IIVx, or Performa 600 increases processor performance by 250-500%. The 80/40 MHz Presto is only \$299, or with FPU and 128K level 2 cache, \$399.

All Prestos are 100% application software compatible and run through System 7.5.5*. The Prestos are easy to install in the Macs' processor direct slot, and come with clear installation instructions. (*Some configurations are not compatible with RAMDoubler or Virtual Memory. Adapter req'd IISI)

**Allegro's Fast 68030s
Give New Life to Mac
SE, II, IIX, LC, LC II,
Color Classic from \$99**



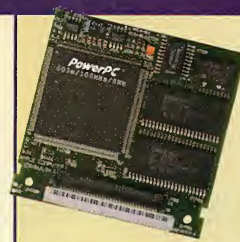
Give your older Mac more muscle. Sonnet Allegros™ are packed with features at bargain prices. The 33MHz Allegro LC for the Mac LC, LC II, Color Classic doubles your cpu speed, adds 16K level 2 cache and includes an FPU—all for only \$149. The 33MHz Allegro SE increases performance 460%, includes an FPU and 4 SIMM slots to expand memory up to 16MB for a bargain \$199. Allegro Mac II, IIX models double '030 speed to 33MHz for a mere \$99.



**150MHz
PowerPC 604
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Give your Power Mac 7500 the PowerPC 604 upgrade it was designed for. This power-packed upgrade is 100% compatible with your existing software and hardware—including cache card. Just plug it in and enjoy the productivity you deserve. *with 601 card trade-in.

66MHz PowerPC 601 with 256K Cache
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**Upgrade Your
PowerBook 520/540
to 100MHz 603e with
8MB Memory for \$399***

This is the genuine Apple Computer upgrade product designed to bring your trusted PowerBook 520 or 540 into the PowerPC generation with a speedy 100MHz 603e PowerPC processor. With this upgrade you can run all native PowerPC applications the way they were meant to be. Upgrade your reliable ethernet-equipped PowerBook to PowerPC, and prepare for the MacOS future. The upgrade includes 8MB of memory and is compatible with your existing RAM expansion board. *Price after a \$100 discount for trade-in of your existing 68LC040 card.

**Run the Fastest
Quadra Ever!
100/50 MHz is
Faster than 840AV**



Plug the Sonnet QuadDoubler™ into a Quadra 610, 660AV, 700, 900, or Centris 610*, 660AV, 650 and run virtually twice as fast as before for only \$399. No software upgrades or changes are required. Just plug the QuadDoubler into your CPU socket and power up your Mac. A CPU extraction tool is even included to simplify installation. The QuadDoubler includes a Floating Point Unit for superfast rendering or calculations. A cache card is also available for the Quadra 700/900 for even more performance. *The Centris 610 QuadDoubler runs at 80/40 MHz and is value-priced at \$299 (without FPU \$199).



**Add Math Coprocessor to
68040 Macs & PowerBooks**

Give your Quadra, Centris, or PowerBook 520/540 a math coprocessor for rendering, Photoshop, CAD, or other Math intensive applications. 25MHz 68040 \$125*, 33MHz 68040 with heat sink \$169*. Add a full 66/33MHz 68040 with FPU to your PowerBook 520 or 540 for \$249*. This upgrade also speeds 520 to 66/33MHz 540 performance. Call for PB190, Duo280 or 68882 FPU. *68LC040 trade-in req'd.

Power FPU

Add FPU support to the Apple 68K emulator. Run all 68K FPU applications at full speed on your Power Mac FPU hardware. Eliminate most coprocessor not installed errors. 10x faster than Software FPU. By John Neil & Assoc. \$75



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256K-7200/7500.....\$59
512K-7200/7500/7600/8500..\$109
256K-5260/5400/6360/6400...\$99
512K-5400/6360/6400.....\$199



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reviews

Draw it. Write it. Learn it in a new language, and drive away happy.

Expression 1.0

DEVELOPER: Fractal Design

CONTACT: 800-846-0111; <http://www.fractal.com>

PRICE: \$499 (srp)

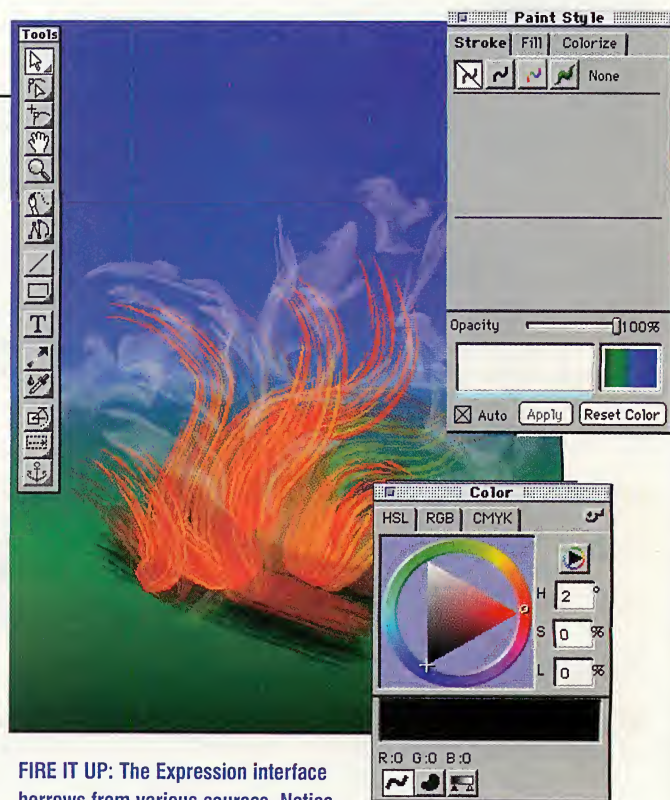
REQUIREMENTS: 68K-based (with FPU) or Power Mac, 12MB of RAM (68K) or 16MB of RAM (Power Mac), pressure-sensitive tablet recommended

Fractal Design has developed one of the most intriguing new drawing programs in years. Take the brushes, crayons, markers, and pens from a natural-media painting program such as Fractal's own Painter, and offer them with the control of a vector-based program with control points and Bézier handles. Add transparency. Sprinkle with a few special effects, including animation, and you've got Expression.

Expression is, at its heart, a vector-based program, though you work with it as you would a paint program. Begin at the Stroke Warehouse, where you pick the brushstroke style for your path. (Expression calls them strokes. You'll think of them as brushes.) As with Painter, Expression ships with more brush choices (more than 350) than most people could use in a lifetime. Each brush transforms the path strokes into the look of all sorts of real drawing tools: pen, brush, crayon, airbrush, highlighter, finger paint, or even a leaky rapidograph, not to mention strings of dachshunds, leaves, footprints, fish, flowers, and tire tracks. Need more strokes?

Draw an object in Expression or import one from Adobe Illustrator or Macromedia FreeHand. Select the art with the stroke definition tool and store it in the Stroke Warehouse. It couldn't be simpler.

After you choose a brush shape, you create paths with the vector drawing tools: pen, brush, polyline, smoothed polyline, B-spline, rectangle, and ellipse. If you're coming from Illustrator or FreeHand, you probably won't want to learn about splines—too confusing. However, 3D and CAD artists will love them.



FIRE IT UP: The Expression interface borrows from various sources. Notice the color picker right out of Fractal's own Painter.

A PRIMITIVE 3D LOOK can be created by defining text as a brushstroke. Here the words "cool text effects" follow the path shape but twist so that they display their back as well as front.

The shape of the path controls the look of the stroke. A curved path creates a curved stroke. A path with a wavy line makes a wavy stroke. However, jiggly lines don't make jiggly strokes. You make smooth paths and then apply jiggly brushstrokes to those paths. That's the whole natural-media analogy. And because every path is vector-based, an illustration that looks as

though it was created with watercolors can instantly be changed to look as though markers, pencils, or oils were used.

With a pressure-sensitive tablet, you can vary the width of the brushstrokes through pressure. However, unlike programs that use the tablet to change opacity and color, Expression varies only the width. If you don't have a tablet, the shear-width handle lets you change the width of the stroke, but not differentially along the stroke, as a tablet does. With this feature you can create branch-

Expression Export

You're going to want to use your pretty pictures in a brochure or a poster, or maybe just print them. Watch out for these output pitfalls:

Native Expression format: Retains all the features but has no options for separations. Useful only for printing directly to a desktop color or laser printer.

Illustrator 3/4 or 5/6 formats: Very disappointing. All the opacity and subtleties of the image are lost. Not recommended!

Generic EPS: Can be imported into a page-layout program but has no preview. Very awkward.

Bitmap: Rasterizes at whatever resolution you specify and saves as EPS, JPEG, Adobe Photoshop 2 or 2.5, PICT, or TIFF format. TIFF is best for output. Keep the original Expression file just in case you need to make changes.

tips

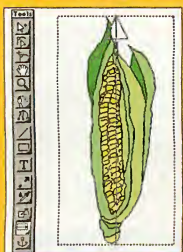
How to Define a Brushstroke

Considering all the power that brushstrokes give you, it would seem that creating them would be a difficult task. It's actually easy enough to do as you're working.



1. Start with some artwork. If it's not already in an Expression file format, you can use the File> Open command to import the artwork.

2. Expression strokes are defined from left to right, so make sure the artwork is rotated properly. Also, you need to decide which way the strokes will trail off. In this case, you should put the stem of the cob on the left and the tip on the right.



3. Select the artwork and choose New Stroke Definition or use the stroke definition box tool to create a marquee around the artwork. Whatever artwork is enclosed inside this marquee will be the brushstroke.



4. Expression also lets you anchor elements in a brushstroke. This is done by using the anchor points tool (which looks like an anchor) to draw a marquee around the points in the artwork. Then choose the type of anchor.

5. Click the Define button at the bottom of the Define Stroke window to get the Define Stroke dialog box. This is where you can name the stroke, decide which stroke folder it belongs in, and choose its default width.



6. Finally, choose the stroke from the Stroke Warehouse and use it to create new artwork.

es that stretch and grow, flowers that bend in the wind, or birds that extend and flap their wings.

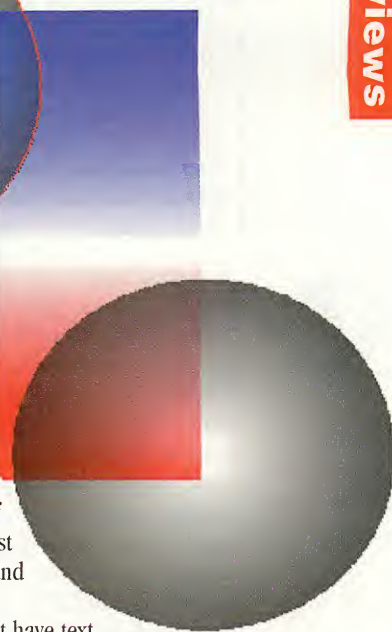
Unfortunately, parts of the interface are awkward. The cumbersome selection tools can't manipulate points, and the node tools can't move objects. That's going to be quite a hurdle for Illustrator and FreeHand users. And wherever the Fractal designers got the interface for the text controls, they should give it right back: No text blocks. No kerning. No tracking. A pop-up menu in a bizarre font lists only the first 32 fonts installed on your System. Because Expression doesn't recognize Adobe Type Reunion, you need a second dialog box to access fonts at the end of the alphabet.

Expression does have the one feature for which Illustrator and FreeHand users have been asking (no, begging!)—transparency. Every object in Expression has opacity controls so that two objects can interact and blend with each other. Shadows change as they



AM I THAT TRANSPARENT?

Two circles with black-to-white radial gradients were placed over a three-color linear gradient. By lowering the opacity to 56 percent, the colors of the rectangle appear in the circle.



travel over different objects. Wisps of smoke or haze can be transparent. Just change the opacity slider for the object and you've got transparency.

Finally, with Expression you don't just have text on a path, you have text as a path. With a line of text defined as a brushstroke, your text can twist and turn as it follows the path. And setting the stroke to the Ribbon mode will twist the path so that you can read the "back" of the text.

Once you've created an Expression file, you can save or export it in different formats. Unfortunately, this is where the Expression team didn't think things through. The only way to get Expression art into a page-layout program such as QuarkXPress or Adobe PageMaker for output is to save the image in EPS or TIFF format. EPS has no preview, which means that once you place the image, you can't crop or reposition it. The only way you can see the artwork is with the TIFF export option, which loses all the vector information. (See "Expression Export," page 62, for the complete output options.)

A few other features are missing. There's no way to import a scan to use as a reference. The layers palette relies on submenus to move layers or objects rather than allowing you to just drag the layers up and down in the palette. And you can't switch views via keyboard shortcuts.

So who will want to use Expression? Obviously, anyone who has been working to get Illustrator or FreeHand to look more like watercolors, woodcuts, sketches, and the like, or anyone who likes what Painter does but needs the benefits of vector paths for scaling, modifying, and manipulating. And any vector designer who has wished for transparency controls. If Fractal could come up with decent text handling and output options, Expression could be the definitive program for artists. —Santee Cohen



FIND A DEMO
of Expression
1.0 on The
Disc.



GOOD NEWS: True transparency in a vector-based program.

Pressure-sensitive strokes that replicate brushes and other tools.

BAD NEWS: Poor output options, especially for professional prepress. The interface may be confusing for Mac artists. Text handling is primitive.



reviews

Nisus Writer 5.0

DEVELOPER: Nisus Software

CONTACT: 619-481-1477; <http://www.nisus-soft.com>

PRICE: \$257 (srp); \$149 competitive upgrade; \$69.95 Nisus upgrade

REQUIREMENTS: 68020 or faster processor, System 7 or later, 4MB of RAM for 68K Macs, 2MB of RAM for Power Macs with virtual memory, 5MB for Power Macs without virtual memory, Power Macintosh required to use OpenDoc

Nisus Writer has long been known for its facility with multiple languages and its powerful search capabilities, indexing, and text editing tools. Version 5.0 adds OpenDoc support, HTML conversion capabilities, an equation editor, style libraries, AppleScript support, drag and drop, and a powerful Apple Guide. A perfect combination of power and flexibility, right? Well, almost.

Of all the new features that Nisus Writer 5.0 includes, OpenDoc support is what differentiates it from others in the field (and previous Nisus Writer versions). Nisus Writer is the first container application (as opposed to Wav, which is a container part) to ship, but given the state of its OpenDoc implementation, Nisus would have been better off waiting for more stability. Nisus embeds OpenDoc parts just fine. It's what happens after they're embedded that's the problem. Parts sometimes disappear spontaneously. Parts may sometimes duplicate themselves when moved within a Nisus Writer document, and text will not wrap around them (you have to draw a graphic behind them to force a text wrap). When you drag one OpenDoc part, other parts on the page move, and when you release a part after dragging, it ends up in a different place than where you thought you were putting it. Worst of all, Type 11 errors have made an unwelcome comeback on my Mac (but only when using OpenDoc parts in Nisus Writer). Basically, the OpenDoc support in Nisus Writer 5.0 is all but unusable.

If you stay away—far, far away—from OpenDoc while using Nisus Writer, you'll find a powerful word processor that has a lot to offer. Nisus Writer boasts a fantastic search-and-replace facility that can search according to font, size, style, or color, and you can



LANGUAGE, LANGUAGE: Nisus Writer is still the word processor for long, complex documents, and still the best for multiple language documents.

now define custom search-and-replace expressions and save them on a menu for easy access. Nisus Writer also handles indexing, cross-referencing, and table of contents production to ease the creation of long documents. With 16 languages under its belt, Nisus Writer is at home with international documents. Define the language in which the text is written and Nisus Writer's dictionary will switch automatically to match the language.

A couple of less-showy but much-needed new features found in Nisus Writer 5.0 are Apple Guide and drag and drop. Nisus Writer's implementation of Apple Guide will lead you, step by step, through a task, a valuable help when faced with the number of features Nisus Writer sports. Nisus Writer also takes advantage of drag and drop (unlike Word), which should be standard in every Mac application because of its intuitive nature.

File translation also figures high with Nisus Writer. Since Word 6 came out with its ground-breakingly poor word processor, Mac wordsmiths everywhere have been searching for an alternative. Nisus Writer 5.0 has all the features Word users need—and then some—and it even does a fine job of importing and exporting Word documents (a must for those of us who would coexist in a Word-dominated world).

Other Nisus Writer features worth mentioning are HTML styles and a Save As command that lets you save your Nisus Writer documents in HTML for easy Web publishing. The resulting pages aren't showy, and Nisus Writer can't translate image formats, or use any of the fancy formatting tags in HTML 3.2, but if you just



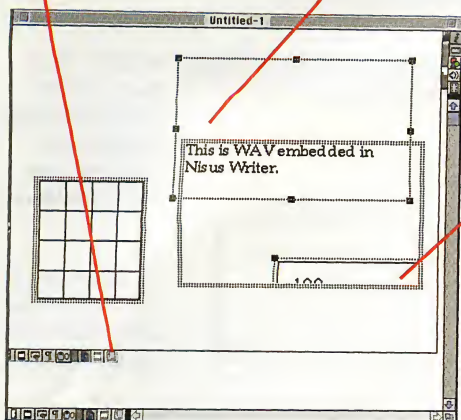
FIND A
DEMO of
Nisus Writer
on The Disc.

The Two Faces of Nisus

This is a tough one. I've been looking for an alternative to Word 6 for months. I'm also a big OpenDoc fan. So when Nisus Writer 5.0 was announced, complete with Word 6 translation and OpenDoc support, I couldn't wait. After all, here was everything. Using OpenDoc and Nisus together is another thing. My Mac and I were submitted to a barrage of Type 11 errors and strangely behaving parts to the point that I won't let OpenDoc near the program. I suppose the blame could be put on OpenDoc (and part of it does belong there; OpenDoc is difficult to program), but I use other OpenDoc container parts to build documents, and they generally behave themselves, whereas Nisus Writer acts like early beta software when OpenDoc is thrown into the mix. A pity then, because just about everything else about Nisus Writer is fantastic. It has a ton of features, is plenty customizable, and has other touches like drag-and-drop support that make it a great tool. If it weren't for the poor OpenDoc implementation, Nisus Writer would have my whole-hearted support. Nisus says many of the OpenDoc problems will be fixed in upcoming patches. It's a grand word processor if you have to work with long, complex documents, and upcoming updates should improve its reliability.

Screen doesn't
always redraw
properly.

At this point Nisus
Writer froze in the
middle of a drag.

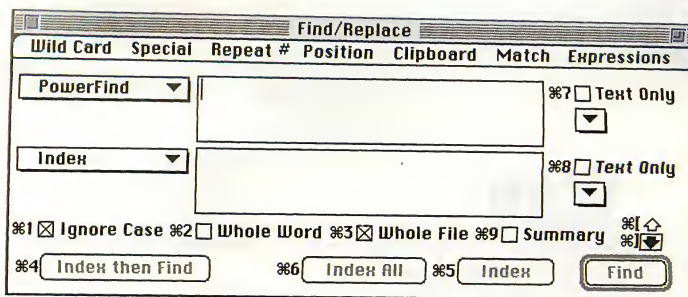


This is
Corda's
C-Graph
part, but
the ghost
of a Wav
part is still
hanging
around.

CUPERTINO, WE HAVE A PROBLEM: And it's a bad one, if you want to use any OpenDoc part with Nisus Writer. When we tried to embed a Wav part, only part of the part was accessible. Not good.

want to put text pages up with minimum fuss, it'll do. You'll also find style libraries, an equation editor, text wrap, unlimited undos and redos, tracking and leading controls, macros (complete with AppleScript connection), and find and replace in unopened documents.

If you have no need or desire to use OpenDoc parts and you need a powerful word processor that includes indexing, cross-



NISUS WRITER 5.0 OFFERS THREE LEVELS of searching text:

Find, PowerFind, and PowerFind Pro. With these, the usually tedious job of altering lots of text is a snap.

referencing, macros, and multiple languages, then Nisus Writer is a great deal. With nice touches such as Word document translation, a fast word count that includes other useful statistics, multiple undos and clipboards, full drag and drop, and style libraries, in a perfect world Nisus should be able to woo disillusioned Word users. If all you do with your word processor is write a few letters or an occasional paper, then Nisus Writer may be too much processor for your words. Now if only the OpenDoc support were well done... —David Reynolds



GOOD NEWS: Lots of features that don't get in your way.

Powerful search capabilities. Strong text-editing tools. Great file translation abilities.

BAD NEWS: OpenDoc portion of the program is buggy and prone to crashes.

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reviews

Wav

DEVELOPER: Digital Harbor

CONTACT: 801-785-2115; <http://www.dharbor.com>

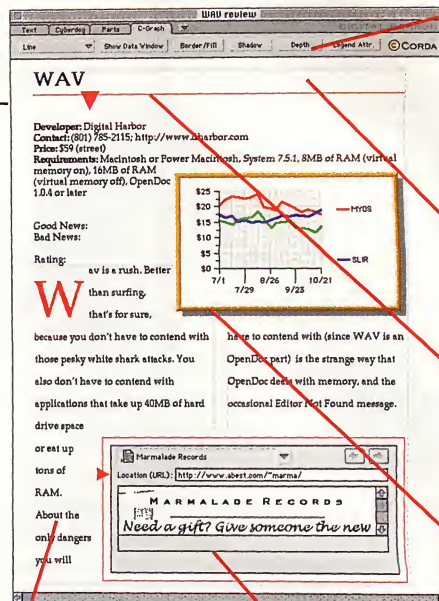
PRICE: \$59 (street)

REQUIREMENTS: 68030 or PowerPC, System 7.5.1, 8MB of RAM (virtual memory on), 16MB of RAM (virtual memory off), OpenDoc 1.0.4 or later

Wav is a rush. Beats surfing: no pesky white shark attacks. You also don't have to contend with applications that take 40MB of hard drive space with features that even an overzealous grad student wouldn't use. The only danger you'll have to face when using Wav is RAM usage, and to be fair, this isn't so much Wav's problem as it is the way OpenDoc works. Other than that, using Wav is like finding a deserted beach with big surf, and you with your short board.

About OpenDoc Aside from being a top-notch word processor, Wav is one of the first genuine commercial, full-version-release OpenDoc parts, and as such, it's real cutting-edge stuff. (Wav has been certified by CI Labs as an official Live Object—this is like the "Good Housekeeping" seal for OpenDoc.) For those of you not familiar with OpenDoc, it's a new component technology co-developed by Apple (and several other high-tech big kids) that concentrates on documents rather than on applications. Users open a document, drag on OpenDoc parts (or PICTs, or text, or the like) and these are automatically incorporated into the document. OpenDoc parts can be anything from a word processor such as Wav to a spreadsheet part to a movie viewer to a Web browser. The theory is that developers can concentrate on the things that they're good at, users can include only the functions they want by dragging in parts, and the whole world breathes a sigh of relief as wasted space is replaced by small, cheap OpenDoc parts and documents.

It's Wav's connection to OpenDoc that makes it extra nifty. As an OpenDoc container, Wav can hold any other OpenDoc part.



FOLDER BAY: Text controls are located here and you can add your own project folders.

HEADER TEXT BOX: Just click and type to set up headers.

DIVIDER LINE: Several are available in Wav's insert menu.

EMBEDDED PART: Corda's C-Graph Displays a graph of data obtained over the Internet.

DYNAMIC TEXT WRAP: Text automatically flows around parts.

EMBEDDED WEB PAGE: Built-in browsing via Cyberdog.

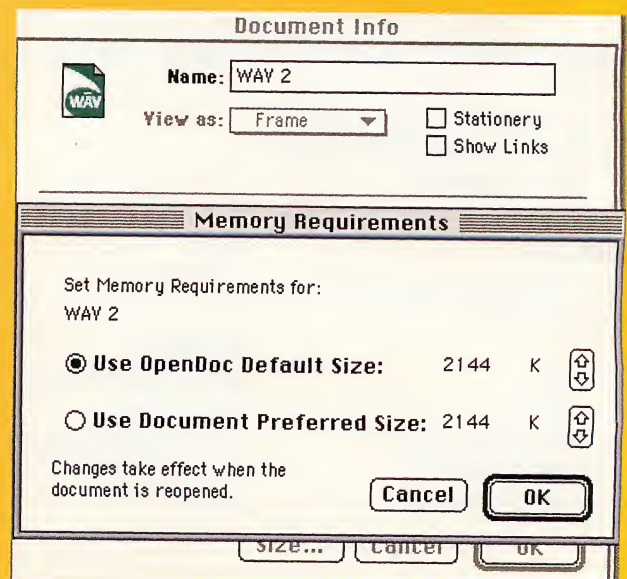
This means you can put all kinds of graphs, Web pages, and pictures in your document without having to load another application. Want a chart that illustrates how Dalmatian sales have increased since Disney released "101 Dalmatians"? Just drop Corda Technologies' C-Graph (a demo part comes with Wav) and you get a chart. Drag a Cyberdog URL that points to tab-delimited Dalmatian data, and your graph is automatically updated via the Internet. Once a part is embedded, you can put a border around it—a nice touch. Wav can also be embedded in any other OpenDoc container, including itself.

The Wav We Were

• Due to OpenDoc, Wav uses memory differently than all applications. Although Wav documents use a memory partition as other applications do (it can operate in a space as small as 1MB), it also causes the System to devour a substantial chunk of temporary memory, ballooning it as much as 8MB while Wav is running (much of this memory is taken by Cyberdog). While this RAM hit can be a problem, it can be reduced for Power Mac users by turning Virtual Memory on. This ballooning is mostly a one-time affair. Open a second document, and you only lose the amount of RAM that the document requires, plus a few hundred K of temporary System memory. Wav comes with a document about managing memory under OpenDoc, and it's well worth a read.

• The Stationery folder must be at the root level of your hard drive to work properly. You can also create your own bays by dragging folders from the Finder to the folder bay. Wav looks at its contents, and puts them up for your use.

• Embed URLs to common Internet reference sites (grammar, style, dictionary, encyclopedia) on the Internet in a Wav document, and then save that document. Every time you want to write something that requires a little research, your tools will be close at hand. To get started, try <http://dept.english.upenn.edu/~jlynch/Grammar/index.html> for Jack Lynch's "Grammar and Style Notes."





DOCKING PROCEDURES: You want a part? We got your parts right here, buddy—if you need, for example, a charting function, just drag the relevant part to Wav's Parts Bay, and use away!

Beyond components Wav is proof that the do-what-you're-good-at philosophy behind component software works. As a word processor, Wav is intuitive. You can begin typing anywhere on a page merely by clicking where you want to type—no string of returns to get to the middle of a page. A "precursor" (which looks like a grayed-out text insertion cursor) follows your pointer to let you know where your cursor will appear when you click. To set up document headers and footers, just click in the header or footer box, and start typing. Wav also supports drag-and-drop editing. Just select the text you want to move, and put it anywhere, including into other OpenDoc documents and drag-and-drop-aware applications. One limitation to Wav's drag and drop seems to be that you can't move text more than a full page away from where you picked it up. You can get around this with cut and paste, but wouldn't it be nicer to drag all the way?

A testament to its elegant design, Wav implements dynamic text wrap. When you drag a part onto a text-filled page, Wav automatically wraps the existing text around the part as you move it—all in real time. This is great fun all by itself, and you get the added benefit of seeing how your text will look without having to reflow it or set up a bunch of flow options. Columns are also easy to use. From a pop-up menu in the folder bay, you can select the number of columns, and whether you want a line between them. Columns go across sections; to change the number of columns that appear in the middle of a document, just start a new section.

Wav has most of the other features you would want in a word processor, including full tabs, colored text, search and replace, AppleGuide help, word count, justification control, and full control of line spacing. However, Wav is also missing a couple of more esoteric features, including non-contiguous text selection and kerning control. These will be missed. Some high-end bonuses often associated with word processors, such as indexing and mail merge, are also not included in Wav, but the nice thing about OpenDoc is that someone else can write an indexing or mail merge part, and anyone who needs those functions can buy and install those parts. Spell check for Wav is implemented by just such a part: Lexi, by SoftLink.

The final word: Wav is the spiffiest word processor to come along in several years. It's elegant and intuitive (with easy keyboard navigation, bulleted lists, and painless right-delete), and its integrated Internet services are a godsend. A few clicks in Cyberdog brings up all the information available on the Internet. You can also make graphs, import data of all kinds just by dragging in files (including Word 5.1 files, QuickTime movies, PICTs, JPEGs, sounds, and Cyberbuttons), and drop in any other OpenDoc parts that you might need. Installation and operation were surprisingly smooth, with only one Type 11 error striking. All of this for only \$59. I'm convinced. Wav is my word processor of choice. —David Reynolds



GOOD NEWS: Intuitive, elegant interface. OpenDoc support.

Great price. Tight Internet integration.

BAD NEWS: Large memory requirements. No formatted text export options.



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reviews

Adobe Acrobat 3.0

DEVELOPER: Adobe Systems

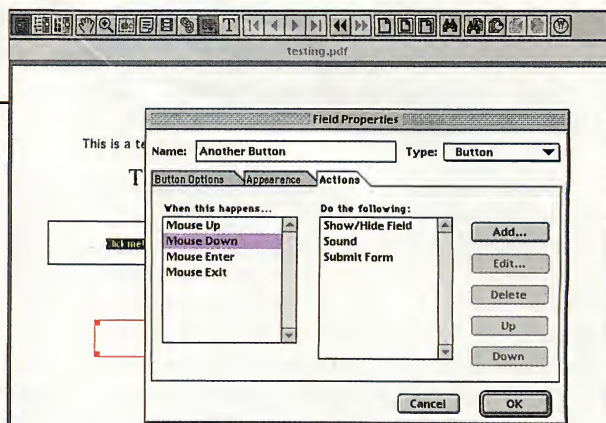
CONTACT: 800-272-3623; <http://www.adobe.com>

PRICE: \$295 (srp); call for upgrade information

REQUIREMENTS: 4MB to 16MB of RAM (68020 or faster) or 6MB to 22MB of RAM (Power Mac), System 7.0 or later, CD-ROM drive

Adobe makes no bones about pushing its Portable Document Format (PDF) as the standard for cross-platform documents on the Web and in print. With Acrobat 3.0, Adobe adds features to make using PDFs easier, and includes goodies that were previously available only separately or (God forbid!) only for Windows.

The Acrobat CD-ROM includes Acrobat Exchange 3.0 (to view and edit PDFs), Acrobat Distiller (to convert PostScript files to PDF), PDF Writer (a Chooser-level driver that "prints" directly to PDF), Acrobat Catalog (which indexes folders of PDFs and their contents), and the PDF viewer (also downloadable free from Adobe's Web site). You also get a Netscape Navigator plug-in for viewing Web-based PDFs within Navigator or Microsoft Internet Explorer, and clip art, sounds, and fonts. Also included are three Acrobat plug-ins: Acrobat Scan, Import Image, and Capture, respectively, for scanning in documents, converting bitmap images to PDF, and performing optical character recognition on



IT'S NOT JAVA, BUT... With Acrobat 3.0, you can add basic interactivity to a Web page by setting actions to mouse events.

scanned images to convert them to searchable PDFs.

One crucial change in Exchange 3.0: You can now "touch up" a PDF. A typo in your PDF? Fix it without regenerating the entire document. Exchange also now has basic type controls (font, size, kerning, tracking), although you can edit only one line of text at a time. You can also make scroll unbroken from page to page without jumps.

Despite Acrobat's Web focus, one enhancement in Distiller aims at

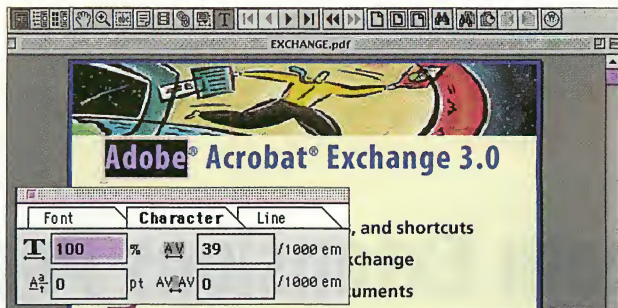
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ONLY LOOKS FINISHED: If you find a typo in your completed project, Acrobat 3.0 lets you edit the error. In 2.1, you had to start from scratch.

print production. Distiller can now embed PostScript printing information within a PDF. It can capture color-separation information and, with a new Adobe plug-in, output separations as well. Adobe claims that PDF will replace QuarkXPress or Adobe's PostScript or PageMaker files as the standard method for getting jobs to a printer. Although Acrobat's small size and low overhead make it an easy investment for prepress bureaus, existing solutions are heavily entrenched.

Exchange's Web enhancements are due mainly to the Navigator plug-in, which lets you view the document in your browser window (complete with Acrobat's control buttons). Thanks to a new <EMBED> tag, you can even position and scale PDFs within a Web page just as you can a GIF or JPEG image. You can save optimally for speedy Web delivery (duplicate images are saved only once, for example). This should go a long way toward addressing the main complaint about PDFs—that it takes forever to load one.

Adobe also added multimedia features to Acrobat. You can call actions upon opening or closing a document, entering or leaving a page, or moving the mouse over regions of a page. The actions

(playing a sound or movie, showing or hiding an image or field) are limited, compared with Macromedia Director or HyperCard, but are welcome nonetheless. You can create forms in your documents that follow the standard HTML form types: radio, checkboxes, menus, and text fields. You can add icons and actions to buttons. However, you're allowed only one form per page, and some actions, such as defining radio buttons, are surprisingly awkward (for checkboxes or radio buttons to function as a group, you must manually assign the same name to each button).

Unfortunately, Acrobat 3.0 comes with little printed documentation. The installer gives you a slew of PDFs (about 22MB for a full install). Although it's handy to have so much information a mouse click away, the cross-document link makes navigation confusing. Online help does show off one new Acrobat feature: You can now follow links between PDFs within a single window; with Acrobat 2.1, you'd get a new window for each document.

With Acrobat and a basic knowledge of HTML, you can create pages with links, sounds, movies, simple interactivity, and forms. However, with Navigator you have to wait for the Acrobat plug-in to load, whereas HTML pages can be zippy. Also, HTML pages can be dynamic and can contain animated GIFs, embedded JavaScript and Java applets, and more. PDF is still a static format. Acrobat is a terrific way to "repurpose" documents you've already designed for paper, but if you want to create sizzling Web pages, you'll probably want to use PDFs as an enhancement to pages created the old-fashioned way. —Eric Taub



GOOD NEWS: Cross-platform publishing. Handy text editing and continuous scrolling. Support for CMYK as well as RGB printing.

BAD NEWS: No printed manual. Bare-bones forms and multimedia don't compare to best of the WYSIWYG HTML editors.

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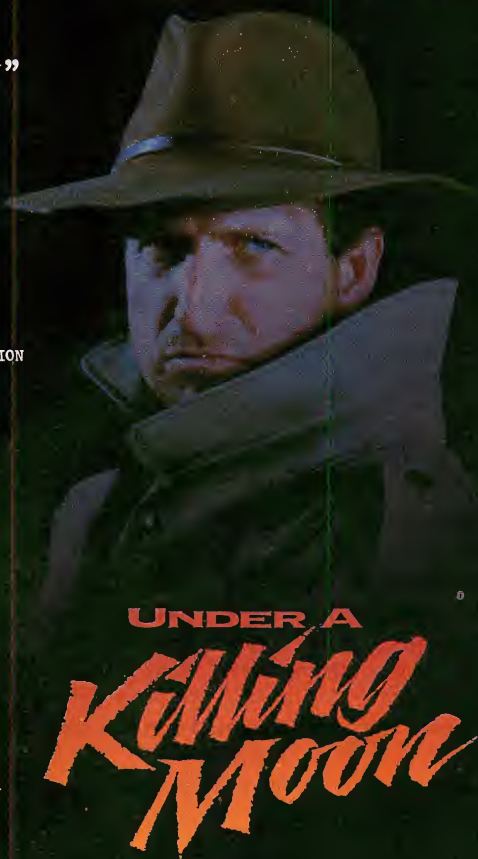
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to find each
clue and explore every
venue, utterly
oblivious to the
passage of time.”
—HOMEPC

“The first game
to provide a
'go-anywhere'
realistically rendered
3-D environment.”
—USA TODAY



UNDER A KILLING MOON—It's December 2042 and Tex Murphy, the last of the old-style PIs, has hit rock bottom. Then a priceless statuette is stolen. From the shadowy back streets of post-apocalyptic San Francisco come rumors that an ancient evil, foretold by prophecy and worshiped by and ancient blood cult, has mysteriously reawakened.

When Tex is hired to find the statuette he plunges into a labyrinth of deceit, manipulation and murder. He'll need all of his PI instincts and every ounce of Murphy savoir faire to resist the seduction of darkness and stop the forces of evil—before the terrifying prophecies become reality.

Under A Killing Moon stars Brian Keith (*Hardcastle & McCormick*, *The Parent Trap*), Margot Kidder (*Superman I, II, III*), Russell Means (*The Last of the Mohicans*, *Natural Born Killers*), and features the voice of James Earl Jones (*Star Wars*, *Field of Dreams*, *The Lion King*).



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reviews

RayDream Extensions Pack

DEVELOPER: Fractal Design

CONTACT: 800-846-0111; <http://www.fractal.com>

PRICE: Radical F/X \$149 (srp); 3D Light Pack \$129 (srp)

REQUIREMENTS: Power Mac or 68040, 16MB of RAM, System 7, QuickTime 2.1 or later, RayDream Designer or RayDream Studio (recommended: Power Mac w/120MHz 604 or faster, 32MB of RAM, 2GB hard drive or larger)

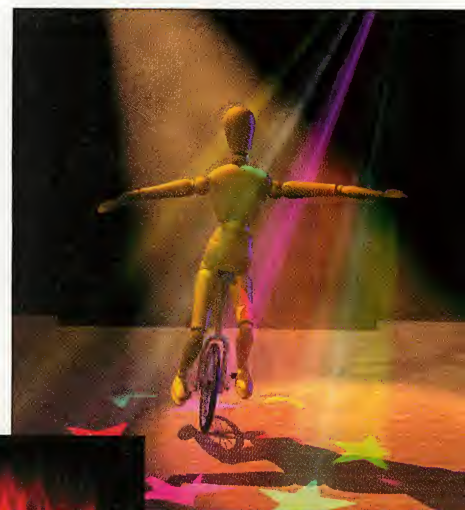
As the 3D illustration and animation market heats up, developers are hustling to add slick features to their products. This suite of extensions for Fractal's popular RayDream Designer and RayDream Studio adds significant and welcome functionality in the areas of modeling, texturing, and special effects.

The most useful plug-in, Radical F/X, introduces Boolean rendering. With this sorely needed feature, you can perform And, Or, and Not operations on any intersecting 3D objects, to produce, for example, a big hunk of Swiss cheese.

Radical F/X also adds other capabilities that range from the definitely hip to the downright hokey. Animators in need of particle effects should check out a new class of particle primitives that includes fountains, volumetric fog, clouds, and fire, as well as the Atomize and Explode deformers, which explode any object into pieces which obey simple gravity settings. The Wave deformer is also a winner, especially if your animations often feature snakes, eels, and worms. On the other hand, stay away from Black Hole (which sucks models down to a point), Spike (which makes 'em grow big, sharp, spikey things), and Spherical (which inflates anything into a sphere).

If your projects run to noirish scenes or misty, foggy environments, you'll want 3D Light Pack, three animatable plug-ins that generate visible light cones, spherical haloes, and glowing auras around objects in turbulent or smokey atmospheres.

True volumetric lighting effects like these are rare on the Mac (although several



THAT'S ME IN THE SPOT-LIGHT: Need visible 3D spotlights? 3D Light Pack has 'em.



WALK WITH ME: Radical F/X broadens RayDream's capabilities to include fire and other cool volumetric particle effects.

packages promise it for upcoming revisions), so 3D Light Pack temporarily puts RayDream's special effects lighting out in front, at least in the under-\$3,000 price range.

Two other plug-ins on the RayDream disc are also must-haves: the Professional Lens Pack, to simulate lens flares and other camera effects; and SuperMesh, for creating mesh-geometry objects from 2D grayscale images.

All told, Fractal is doing a good job of extending RayDream's power; if Fractal just adds plug-ins for bones, a facial deformer, and a faster renderer, then even LightWave for Mac will have something to worry about. —Steven Anzovin

GOOD NEWS: Good news: Adds sorely needed functionality to RayDream.

BAD NEWS: Some extensions have novelty value only.



reviews

Rosetta Stone Language Library

DEVELOPER: Fairfield Language Technologies

CONTACT: 800-788-0822; <http://www.trystone.com> or <http://www.therosettastone.com>

PRICE: \$395 for Level I (direct); site licenses available

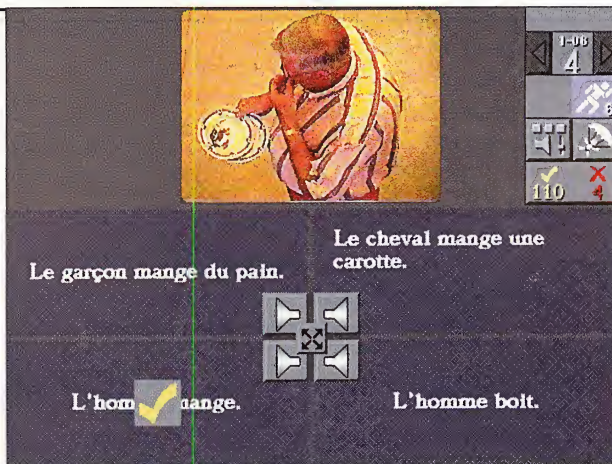
REQUIREMENTS: 68040 or PowerPC, 8MB of RAM, CD-ROM drive, microphone for voice record feature, 13" 8-bit color monitor

For those of you who don't remember, on the Rosetta Stone is inscribed the same story in three scripts: Greek, hieroglyphic, and an ancient Egyptian demotic. Before the Stone was found, scholars understood Greek and some of the demotic, but had little understanding of those funny Egyptian pictures. With the Rosetta Stone, archaeologists were able to decipher the hieroglyphic and demotic versions by comparing them to the Greek.

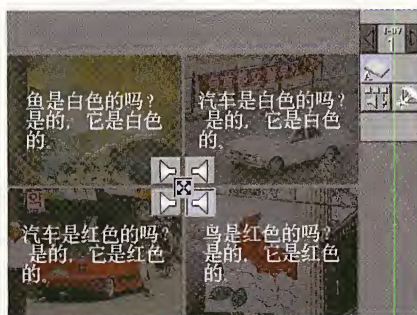
Fairfield Language Technologies takes a similar approach to teaching languages that are a bit more modern. Basically, Rosetta Stone (the program, not the slab) presents you with pictures, or pictures and speech, and you learn by matching. This is called the "natural" or "comprehensive" approach. To more analytic types it may feel like tightrope walking without a net (where are all the standard grammatical rules like "verb second"?), but plenty of academic research supports this method. It is, after all, the way we all learned our native language, and Ludwig Wittgenstein wrote most of his philosophy after noting that children learned what those hard things on the ground were called when an adult pointed and said, "rocks."

The \$395 price tag may seem steep, especially for something titled "Level I," but each Level of each language provides an amazing amount of vocabulary and exercises—eight units containing 10 or 11 chapters, with one review chapter. Fairfield claims that Level I teaches basic grammatical structures and approximately 1,100 words; we didn't have the chance to count, but our extrapolation would agree. Fairfield also claims that one language Level is the equivalent of one year of a college language course, or two years of a high school class, and indeed, you could spend a year getting through one level.

Still, sheer volume does not a pedagogical miracle make. Though the Rosetta Stone Language Library offers words, words, words, and runs in exhaustingly customizable "Run Modes" (with text and voice, text only, flashcard, photos and text, and so on), you learn grammar only by example and what you can infer. The thick book that comes with each CD-ROM contains a printed list of what you hear in each chapter (the phrase "la fille boit," for example, but not how to conjugate "boivre"), and a few exercises in the back. However, each chapter, when run through in Tutorial Mode, does an excellent job of hammering into your head what the Chinese word for "cat" sounds like and looks like in Pinyin, simplified, or traditional characters. With a microphone, you can record yourself repeating the program's dictation, and play it back for feedback; language lab was always a pain, but this feature is fairly pain-free and vital.



IS THAT ALL YOU CAN THINK ABOUT? You can choose whether the Rosetta Stone quizzes you on reading or hearing comprehension, but you're still stuck with this guy chowing down.



ONE OF THE FEW DRAWBACKS: Rosetta Stone doesn't teach you to read individual characters.

Even if you're uneasy swimmer in the seas of language without a theoretical lifeline, you'll soon find yourself swimming, not drowning. The Rosetta Stone uses repetition excellently, and is smart enough to backtrack through tutorials to drill you on areas in which you've had problems. The natural approach actually begins to feel natural, and the intelligently structured lessons gently introduce prepositions, conjunctions, and other parts of speech, until you've got a firm grasp on them. The only thing missing are lessons in which you'd have to compose sentences or

paragraphs from scratch, so you'd learn how to integrate all you've learned. And you will learn a lot. C'est vrai.

Rosetta Stone is available in Level I for Spanish, French, German, Dutch, Italian, Russian, Chinese, and English. Level I Japanese should be out soon. Level II English, Spanish, French, and German should also be available, with Russian II on its way.

Rosetta Stone is for serious language learners; dialect dabblers might be better off with the \$59.95 PowerPac, which contains the first 22 chapters from Level I Spanish, French, German, Dutch, Russian, Mandarin Chinese, and English. Also, keep in mind that Rosetta Stone is designed for those who want to learn how to be functional rather than scholarly in a language. As such, it's best for those traveling, working internationally (NASA used this program for astronauts visiting the Russian space station—how cool is that?), or just trying to communicate with distant relatives. For these endeavors, the Rosetta Stone Language Lab is one of the best language applications we've seen. —D. D. Turner



GOOD NEWS: Great depth and thoroughness. Small install.

BAD NEWS: No explicit grammar explanations. Academic-looking interface may turn off younger users.



reviews



FIND A DEMO OF Rosetta Stone Language Library on The Disc.



reviews

Claris Organizer 2.0, Ascend 4.0

Claris Organizer 2.0

DEVELOPER: Claris

CONTACT: 800-331-6187; <http://www.claris.com>

PRICE: \$69 (srp); \$49 upgrade

REQUIREMENTS: 68020 or faster, 4MB of RAM, System 7

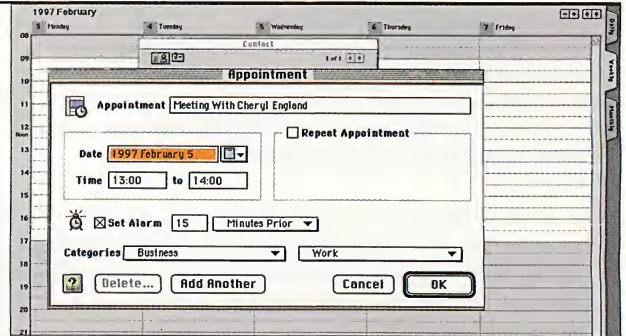
Ascend 4.0

DEVELOPER: Franklin Quest

CONTACT: 800-877-1814; <http://www.franklinquest.com>

PRICE: \$99.95 (srp); \$39.95 upgrade

REQUIREMENTS: 68020 or faster, 8MB of RAM, System 7.12 or later



It's not uncommon to be the brunt of laughter and adjectives like "anal" as you pull out a leather-bound organizer. Here's a news-flash: Organization isn't a condemnable trait, it's a necessity in this high-tech world of ours.

A personal information manager (PIM) digitally recycles your paper-based organizer, appointment calendar, phone book, finances, to-do lists, e-mail addresses, and even those notes on the refrigerator into one powerful, cohesive, and usable information tool. A good PIM is characterized by, among other things, simple installation, smooth import filters, logical information organization, and quick and easy access to data. Two new PIM releases, Claris Organizer 2.0 and Franklin Quest's Ascend 4.0 approach information organization with different goals and methods.



AND YOU WOULD BE... The Claris Organizer 2.0 "contact card" is modeled after a traditional business card—except this one has live links.

MEET ME IN ST. LOUIS: This is the meat and potatoes of PIMs such as Claris Organizer 2.0—who is where, when you need to see them, and how to get a hold of them. Simple enough?

Now Software's DateBook Pro, TouchBase Pro and Now Up-to-Date. Also, you can save tab-separated and ASCII-text data from databases such as FileMakerPro and Claris Works and bring it in.

Whenever you import information from one PIM or database to another, you'll inevitably have to massage the data

before and after to get it just right (see the sidebar, "Organize It!" for helpful organization tips). Organizer's import abilities don't break any new ground here, but they're workable nonetheless, helping you access your contact and appointment information without too much discomfort.

Once the contact card database is set up, you and your information can fly. Click on the contact's e-mail address and Organizer automatically launches Claris Em@iler (but not other e-mail programs); click on a contact's Web address, and Organizer launches Netscape; or click on a contact's phone number to dial that person automatically using a modem (though you have to pick up the phone's handset to talk). The program offers the basics for prioritizing tasks and projects and attaching notes. The program really shines in its intuitive approach to entering, accessing and compiling this data—drag-and-drop opportunities abound.

Other handy features include the Instant Organizer, which gives you instant access to contact and schedule information from your desktop without having to launch the program; Organizer file synchronization between desktop and laptop systems (a necessity if you travel frequently or toggle between your office and portable machines); and flexible print options that let you print to a variety of popular day-planner formats, plus mailing labels and envelopes.

Organizer is so simple to use it's deceiving. Don't be fooled. There's enough power here to impress even some of life's most obsessive control freaks.

Ascend The Franklin Time Management system (and its popular Day Planner) is arguably the most well-known information manager. The Franklin productivity flow chart includes daily tasks, intermediate steps, long-range goals and governing values.

Organize It!

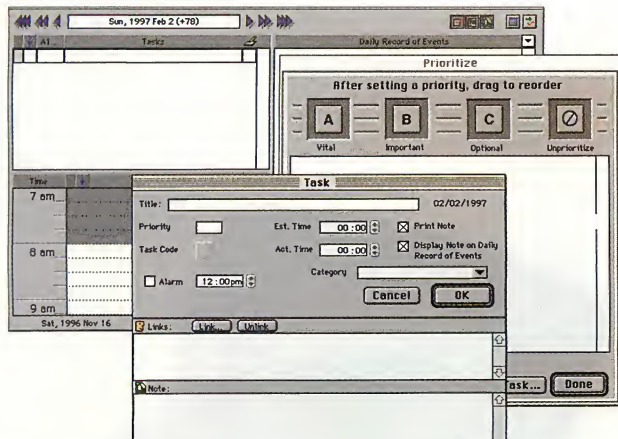
Let's face it: Just getting organized can be a time-consuming pain. But if you follow the tips below, you can, at the very least, diminish some of the stress.

- Set realistic goals: If you don't know what you need to do next, no program is going to tell you. Get clear about what you do regularly, input that information to your PIM, and schedule your free time (what there is of it) from there.
- Sort your papers according to category: contacts (names, addresses, phone, fax, e-mail), to-do lists, appointments, finances, etc. and sub-categorize as defined by your new PIM (alphabetically, by date, by purchase). Be prepared to devote quality time to sort your data up front to save time later—if you trash information that is outdated or not needed, you won't need to set it up in your new database(s).
- If you have an existing database, check which file formats your new PIM imports. Many PIMs accept databases from other applications and require only slight reorganization (as opposed to heavy editing of tab-separated and ASCII-text files).

Claris Organizer

Claris has introduced a number of new features in its Organizer. Version 2.0 has an improved interface, more import filters (which let you copy and insert contacts and data from other software programs), and instant Web links.

Organizer 2.0's hot new feature is the contact card, where you can find and launch the program's functions by clicking a name, address, telephone, fax, and e-mail address. The contact card is set up logically: the information cells are just where you'd expect them to be on a generic business card. For the contact card, Organizer's filters accept data from nine other PIMs, including



GET YOUR PRIORITIES STRAIGHT: Prioritizing tasks is exactly where Ascend is strongest, though if you're not a Franklin Quest devotee, it may get a bit overwhelming.

The system's upgraded electronic counterpart, Ascend 4.0, follows the Franklin Day Planner system fairly religiously. This could be good or not so good, depending on how much or how little structure you want from your PIM.

If you use a paper-based Day Planner and follow the Franklin goal-oriented, positive-affirmation system, Ascend will be worth your while. Version 4.0 has added improvements such as combining common features into one window, linking tasks and appointments to address and phone records, and new calendar views. You can set up a governing value, such as "I am bilingual," write a clarifying statement such as, "I will study and practice my second language regularly," then rank this value in order of importance with all other values in your life. Then you must set a long-range goal for action, and intermediate steps and daily tasks to meet your goals and governing values.

You don't have to enter a governing value and long-term goals for every task or appointment—even if Franklin devotees may think of you as a slacker. As with most PIMs, Ascend lets you organize meeting times, attach notes to contacts, and prioritize tasks. Priorities can be set according to the model of A: vital, B: important, and C: optional, further organized according to A1, A2, B1, B2, etc. and further organized yet again with action codes such as "complete" and "in process." Then you can print your calendar on a special Day Planner page fit for your hand-held diary or on regular paper.

There's so much structure and so many organizational options here, it's easy to imagine one could spend *too* much time organizing time (Ascend doesn't have a help file for this problem). However, one person's overkill is another's empowerment.

Working with a PIM may seem a cramp in personal style to some, but the reality of meetings, deadlines, and tasks make the cramp a palatable alternative to missing what you shouldn't miss. And, in any case, how stylish can it be to always be digging through your pocketful of sticky notes? —Angela Gillespie



Claris Organizer 2.0

GOOD NEWS: Provides powerful set of organizational features and functions with helpful "get started" tour and intuitive tools.

BAD NEWS: Doesn't have an option to launch other e-mail and word processing programs from the contact database.



Ascend 4.0

GOOD NEWS: Franklin Time Management System devotees (and there are a lot of 'em) will love it.

BAD NEWS: If you just want a PIM and don't really need daily affirmations, look elsewhere.

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reviews

eMate 300

DEVELOPER: Apple Computer

CONTACT: 800-800-APPL; <http://www.newton.apple.com> or
<http://education.apple.com>

PRICE: less than \$800 (educational pricing available)

Talk about an apple for the teacher. With its new eMate 300, Apple hopes to introduce to the education market what it calls a "Distributed Learning Environment," which represents the simple idea of giving teachers and students tools to access information, create new work, and communicate back and forth. Simple idea, but the practice has been hampered by the expense of equipping every student with a desktop computer or a PowerBook—not to mention the valuable class time lost in training and inevitable tech problems. The eMate seeks to be powerful enough, simple enough, and connectable enough to make this dream come true.

For those of you who don't know, the eMate is Apple's new education computer based on Newton technology. It's not really a notebook computer—the screen is a touch-sensitive, black-and-white LCD, and it runs the Newton OS, not the Mac OS—but it's more portable and far less expensive.

We put the eMate to its test with the students and teachers at the Brisbane School here in MacAddict's neighborhood. The Kindergarten through 5th grade students use the school's PC/Mac mix for word processing, making slide show presentations (using Microsoft's PowerPoint and Brøderbund's KidPix), putting up Web pages, and communicating with researchers and newsmakers through e-mail.

Most of the students loved the stylish shape ("It even has a handle to use") and size of the eMate; its 12" wide by 11 1/2" long by 2" high case fit into all but the smallest kids' backpacks, and it proved to be plenty durable ("My friend dropped the computer"), though after a week of intense use there were a few faint scratches on the touch screen. The 25MHz ARM 710a processor is the same as in the Newton 130, but the eMate seemed to perform much more

speedily, and the students and teachers compared it favorably to the notebooks they've used. At four pounds, it's significantly lighter than a PowerBook, which the students all appreciated.

The eMate comes with an expanded version of NewtonWorks: a word processor, a simple draw program, a calculator, a spreadsheet program, and a Date and Address Book. Apple promises that many third-party developers will make more applications available soon after the eMate's release. Most kids thought the included apps were enough for schoolwork, though one wanted an eMate version of KidPix, and some wanted games. Teachers would like a typing tutor, a map program, more



AND IT'S TRANSLUCENT, TOO: There's a good deal of the Tinker Toy about the eMate, with its almost-visible insides and kid-proof casing.

drawing capabilities, and maybe color. Though we didn't have any new software to install, it should be easy to do; the eMate has a slot for Type I, II, and III PC Cards, as well as serial ports for connection to printers and AppleTalk networks. The eMate will also ship with Classroom Connect software for the Mac for file sharing and transfer, though our unit came without.

The eMate's handwriting recognition worked well, recognizing about 3/4 of the students' handwritten words, and didn't require learning a shorthand, as does Palm Computing's Graffiti recognition software on the Pilot PDA. Still, it's not a perfect system: fixing a mid-word error pretty much means erasing the whole word and trying again, and the word processor doesn't accept handwritten entries (and the ability to enter handwriting was one of the features that made a lot of the students prefer the eMate over a Mac).

The Newton OS was, mostly, easy for the schoolkids to learn. In fact, when we got our eMate back from the Brisbane School, it was full of text and graphic documents, all stored in folders with titles such as "Hilary is Best." The students, with minimal tutoring, were able to write reports, draw pictures, do math, and integrate it all into documents, within a day or two of playing with the eMate. There was a learning curve ("For me, it was harder than a Mac because I didn't know how to exit and go into something else"), though a much smaller one than might be expected when moving

BOB (THE PRINCIPAL AND FIFTH GRADE TEACHER) SAYS:

The design is great, both in terms of shapes for the kids but also in terms of durability. I also liked that the computer can be shut off simply and it will save. This is important when the bell rings. Using a stylus makes sense for kids, especially younger students who are more able to use a stylus than grasp the concept of a mouse. Interesting color. Will students have a chance to choose from other colors?

The screen is small and a bit too dark. No floppy drive, but it may be okay since it can be hooked up to a desktop.

He said, she said

LLOYD SAYS: I liked this laptop because it is durable, has a touch screen, and doesn't need time to load. You can just open it up and start to type or draw or whatever.

The part I don't like is that it has no desktop and no easy way to access popular working programs (KidPix, Word, and Writing Center).

This laptop can be used as a notebook in school. You can write things at school and dock them to a computer at home or school for printing.

REBECCA SAYS: I like the eMate because it's cool! You can draw on it and you can write on it! It has a keyboard like a regular computer! Also, it's a cool color! We could do presentations on it. We could do reports. We could borrow one to do our homework at home if we don't have a computer.

HILARY SAYS: The keys are not so small that when you press one key you accidentally press two.

I can barely draw a star with a mouse. With a stylus pen, it's like drawing on paper.

The students could have a Science folder and write in that folder when they needed to. If they needed to bring it somewhere else they could just pick it up and bring it.

STEVE (FOURTH GRADE TEACHER) SAYS: I have my class set up in six groups of five kids each. I could see each group having one to share on a rotating (one student per day) basis. Students whose turn it is could also take it home for homework. It would be a reasonable investment for some, but not all, schools. A \$600 price tag would be a real selling point.

between entirely different operating systems.

For schools in which eMates are shared, there's "Classroom Mode" for multiple users; the teacher can create different password-protected accounts. This way, students can share eMates without worrying about Sammy ruining Suzy's report, or the teacher can put study files on the eMates for the students without worrying about them being altered (for better or for worse).

The eMate's screen is basically the Newton 2000's: 480 x 320 pixels in grayscale. The students loved writing and drawing directly on it with the included pen. Though

some missed having a mouse, the ability to draw directly on screen seemed to bring out the Picasso in many a student—mouse-based drawing is difficult for small hands. Though the keyboard received a decent rating overall, touch typists may be bugged by the low-profile, short-throw keys, and the squishing of the Caps Lock, Command, and

cursor keys, but smaller hands should have no problem. A plus is the row of function keys along the top of the keyboard, which provides shortcuts to Help, Setup, and backlight for the screen.

The eMate has ports for serial and RS-232-compatible connections, though both can't be used at the same time, due to a one-or-the-other sliding cover. The school principal thought eMate's lack of an internal modem was a drawback—with one, students could more easily connect from home to check on assignments, access the school's database, or even work on their Web pages.

In the past, the Brisbane school has spent about \$1,400 per student for computers; the eMate seemed to fill all their needs, and with Apple's educational partnership pricing, would come in at less than half that. Also, upkeep costs and time should be far reduced.

So, is the eMate the future of the classroom? No, of course not. Though it provides truly useful functions such as word processing, graphing, slideshow presentations, and more—all networkable, outputable to Macs or directly to printers—at around \$800 it's still an expensive product for either a school or a parent to buy for a child, even though it's less than half the price of a new PowerBook. Still, it's the cheapest computing option available, and with AppleTalk capability, Internet access, a growing number of applications available, and near-bomproofness, the eMate, if widely adopted, could bring the dream of computers in the classroom that much closer to reality. —D. D. Turner



GOOD NEWS: "Cool!" say the kids. Good first step to computing, and makes easy the transition to desktop models.

BAD NEWS: Still expensive. Lacks built-in modem. Manual not well-organized.

Captivate

DEVELOPER: Mainstay

CONTACT: 805-484-9400

PRICE: \$89.95 (srp)

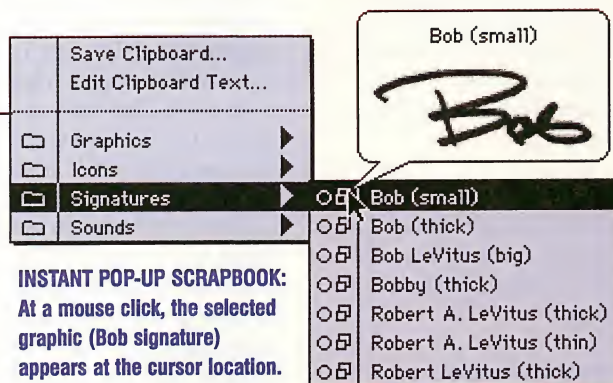
REQUIREMENTS: System 7.0 or later, 1MB of hard disk space

Captivate is a trio of utilities for screen capture, graphics display/manipulation, and multimedia storage. The suite uses little memory (500K for Captivate View, and less than 40K each for Captivate Store and Captivate Select) or disk space (less than 1MB).

Captivate Select offers many advantages over the Mac's built-in screen capture, including the ability to capture menus, dialog boxes, only the active window, and only portions of the screen. It can save screen shots as PICT, TIFF, GIF, Scrapbook files, or place them on the Clipboard. Unfortunately, Select is unable to capture some—mostly game—screens. Ambrosia Software's \$15 Snapz shareware program, although it has fewer features, was easily able to capture those same screens.

Captivate View is a bare-bones graphics viewer that can display PICT, GIF, TIFF, MacPaint, Startup Screen, and SimpleText files, and convert from one file format to another. It can also crop, rotate, scale, or flip graphics, and display memory size, dimensions, and pixel depth. Other than the low memory requirement, View has little to recommend it. Almost any graphics program—low- or high-end—can perform these chores and more.

Captivate Store, based on Mainstay's venerable ClickPaste, is the



INSTANT POP-UP SCRAPBOOK:

At a mouse click, the selected graphic (Bob signature) appears at the cursor location.

clear-cut winner of the three. A speedy and slick replacement for Apple's aging Scrapbook, Captivate Store displays items—graphics, text, sounds, or QuickTime movies—in a hierarchical, pop-up menu and allows their use in almost any program without copying, pasting, publishing, or subscribing. It also lets you edit or save text on the Clipboard. It's easy to use and easy to get used to.

Captivate Store is a terrific time saver for anyone who uses the Scrapbook or pastes graphics, movies, or sounds into documents. The other two utilities are less essential; consider them a free bonus when you buy the excellent Captivate Store. —Bob LeVitus



GOOD NEWS: Captivate Store is perhaps the best Scrapbook replacement on the market.

BAD NEWS: The other two components are eclipsed by other available products.



reviews

Netopia ISDN Modem 412

DEVELOPER: Farallon Communications

CONTACT: 510-814-4100; <http://www.farallon.com>

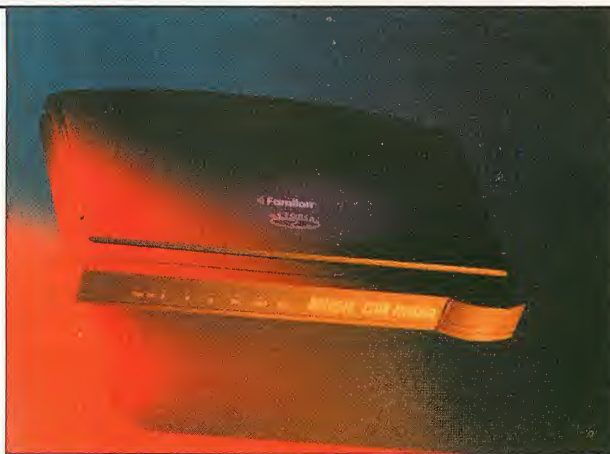
PRICE: \$399 (street)

REQUIREMENTS: Macintosh Plus or later, System 7.1 or later, 2MB of hard disk space, available serial port

Farallon Communications has been connecting a lot of people for a long time now, from its still-popular PhoneNet connectors, which allow you to network Macs easily, to EtherWave modules, which daisy-chain stations on an Ethernet network. The company's Netopia ISDN Modem was one of the first modems to allow individuals to hook up to the shiny, happy world of digital lines (ISDN runs on fiber-optic cables rather than on the low-bandwidth copper lines used for telephones). With its "Up and Running, Guaranteed!" service and new 412 model, Farallon tries to get us to take the next step up from audio modems, but the path remains

none too smooth. Still, if you want significantly more speed than your standard modem offers, ISDN is your best choice.

The physical installation of the 412 modem is easy (once your regional phone company has come by and installed an ISDN jack in your wall). Simply plug your ISDN line from the jack to the 412, then attach the included serial cable from the 412 to your modem or printer port, and that's it. The type of ISDN line you'll get really consists of three parts: two B channels, each of which can support voice or data at 56Kbps or 64Kbps (depending on your phone company's hardware), and one D channel, which is reserved for call setup and signaling. With this arrangement, you can plug your telephone into a standard phone RJ-11 jack in the back of the 412 and place calls while you're online, though it will cut your throughput in half. The 412, unlike its predecessor, has two RJ-11 jacks, so you can also hook up another phone or fax; the ISDN Setup software



SLEEK BLUE BEAUTY: Although its footprint is large, the stylish Netopia 412 gives you something to admire and has functional status lights, too.

allows you to choose which jack answers which line.

ISDN, however, is still far from a mature technology. That is, the technology is developed and functional on the server side but not so much on the user side. Service providers vary across the United States and the world in rates, fees, and features, and getting ISDN installed can be a major pain, not to mention expensive. There are fees from the phone company to activate the line and install a jack; the cost of the new hardware and new Internet service provider; and in some areas, minute-by-minute usage fees. For example, phone companies won't even talk to you about installing an ISDN line until they know what your hardware setup is. And you'll have to abandon your old ISP unless it has a separate dial-up number that supports ISDN (and make sure you check that the new ISP supports the same version of the PPP software you use), not to mention that you'll also have to change your voice phone number unless you keep your old phone line. (However, monthly charges for one two-line ISDN hookup may be less than for two regular lines.)

Farallon tries to ease the path for potential customers with its \$99 optional "Up and Running, Guaranteed!" service. If you're a confident power user with plenty of time to pore over manuals and make calls to phone companies and ISPs, you could do the setup yourself. However, the Up and Running service expedites the process considerably by coordinating your accounts with the phone company and the new ISP (it even helps you find one) and by helping you configure the connection software. (The manual, although it admirably devotes separate sections to Mac and PC, is woefully inadequate when it comes to explaining how to connect an analog modem or even configure any PPP client.)

Even with the Up and Running service, and the ISDN Assistant software Farallon provides, dealing with switch types, Service Profile IDs, endpoint IDs, and the like may make you yearn for the simplicity of IP addresses and flow controls. (Here's a tip: if you encounter repeated reluctance on the part of the ISDN setup software to configure, throw out your old modem Control Panels, Extensions, and Preferences.

ISDNiceties

Going to an ISDN line is a bigger step than you might think. These are a few things you can do to ease your transition.

1. Keep your old analog phone line.

Even though your new ISDN line will allow you to call at the same time data is flowing, if the power goes out, all your ISDN lines go, too. This might be a concern if you're the type who might need a phone in, say, a blackout.

2. Set aside time.

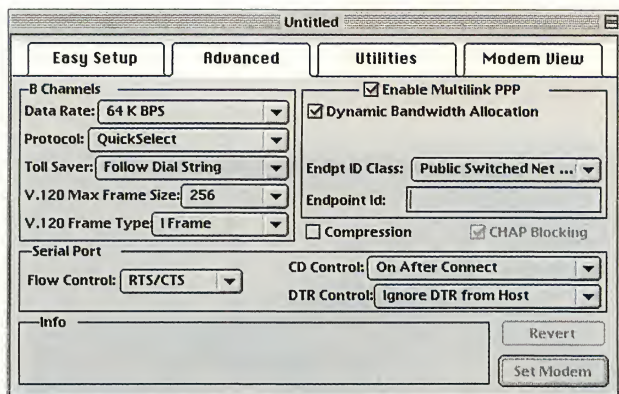
Even with Farallon's Up and Running service, you will spend a few hours here and there dealing with billing, getting phone company technicians to install a new line, and configuring protocols.

3. Set aside space and money.

Make sure you price out *all* the aspects of ISDN. Factor in the price of the hardware, ISDN jack installation and activation fees, a new ISP, and telling all your friends your new number and e-mail address. Also, make sure you've got a place to put the ISDN jack that won't turn the ISDN line into a tripwire around your desk.

4. Schedule intelligently.

It's not a good idea to set Friday afternoon aside for your ISDN jack installation. If anything goes wrong, you'll have no one to turn to after 5 p.m. Even if everything goes right, Farallon's Up and Running people run home for the weekend, so you'll be left without Internet access (and the ability to tell the phone company to forward calls from your old phone number) until Monday.



WHEN THEY SAY ADVANCED, THEY MEAN IT: Even with Farallon's customer support and a wizardlike ISDN Assistant, there's a lot of new protocol to negotiate.

For some reason, their continued existence seems to bother the ISDN software. And the fun doesn't end there. Once configured, the lines can be touchy, suddenly dropping out or switching off. No one we asked at either Farallon or the phone company knew why.

Apart from ISP and phone company problems, the 412 performed solidly. Throughput for Web pages varied, but the top rate was consistently two to three times higher than with a 28.8Kbps modem and Open Transport 1.1.1/FreePPP 2.5. Some pages loaded nearly instantaneously (of course, so much depends on the route the data take). The most dramatic improvement was seen when downloading a file—7Kbps to 10Kbps was not uncommon, whereas 2Kbps was a signal event with a 28.8Kbps modem.

Also, "downtime" between connections to servers seemed to be reduced considerably. Farallon claims that the 412 takes advantage of the recent improvement in serial port speed to 115Kbps (if your Mac comes with a GeoPort, you probably have the new serial DMA software that allows this), theoretically boosting throughput speed to twice that of competing products, such as Motorola's oddly spelled Bitsurfr. The 412 also has a proprietary file data compression feature, which is useful only when connecting Farallon modems; identically configured 412s could see a transfer speed of up to 230Kbps. Or, you could run Farallon's Timbuktu Pro remote-connection software (the 412 comes bundled with a two-node license, which would, if purchased separately, set you back \$200), and work on your office computer from home (with the approval of your IS person, of course).

Overall, the 412 might be a good solution for anyone who has the need for speed and doesn't mind being on the bleeding edge; who can't get multiple lines into the house any other way; or who wants to set up a small LAN with Internet access (the 412 comes bundled with Netscape Navigator, Microsoft Internet Explorer, Qualcomm's Eudora Light, and various network utilities). Farallon's customer support could make the difference between a tricky pioneering move and an abandoned one. In the long term, other technologies may eclipse ISDN, but for now, it's pretty cool, and that's the nature of technology, isn't it? —D. D. Turner



GOOD NEWS: Provides a significant speed boost over 28.8Kbps modems. Good customer support. Gives you two phone lines.

BAD NEWS: Painful problems with ISDN in infancy. Inadequate manual.

You Don't Know Jack 2

DEVELOPER: Berkeley Systems

CONTACT: 800-344-5541; <http://www.berksys.com>

PRICE: \$28.98 (street)

REQUIREMENTS: 68040 or PowerPC, System 7.1 or later, 5MB of free RAM, 16MB of hard drive space, 2X or faster CD-ROM player, QuickTime 2.5 or later (included), 13" 8-bit color monitor

You say you're sick of smarty-pants humor? Tired of post-modern ironic commentary, gratuitous insults, sexual innuendo, and mindless multimedia for its own sake? Well, turn the page, Bunky, 'cause You Don't Know Jack 2 is clearly for someone else.

Jack is a game show for one to three players, straight out of the Jeopardy/Trivial Pursuit mold. It's also smug, smarmy, and smart-assed, hosted by a wise guy who combines Dennis Miller's attitude with Christian Slater's near-whine vocal finesse. Slow to respond? The host snaps off your head. Wrong answer? Your intelligence is questioned. But get this straight: Jack is squarely in the Really Funny School of smarty-pants humor. It works. Over and over, our skeptical team of game testers cracked up.

The attitude alone wouldn't be worth 15 minutes without a solid, engaging game to back it up, and again Jack delivers. Up to three players crowd around the keyboard, ready to buzz in answers by pressing a key. The questions set mind-stretching puzzles under a veneer of incongruous and hilarious pop culture references from Mary Tyler Moore to Popeye the Sailor. Players work hard—and fast—to unravel the question and then to figure out the answer.

This latest version adds all new questions and a few new twists to



TRICKY QUESTIONS ARE WORTH \$100 to \$3,000, but simply picking a category is an exercise in dadaism.

the original, but it's essentially the same old Jack. We tested the game on a slow PowerPC-based Mac with a 2X CD-ROM player and the animation, sound, and action never flagged. It remains a great game for two or three, though slightly less fun for one.

Just two contradictory quibbles: the game is limited to just three players, one too few to play pairs against one another. On the other hand, three players is a tight fit around a keyboard, and any more would be a bit too chummy. —Joseph O. Holmes



GOOD NEWS: Funny. Challenging. Fast. Rude. Overcomes skepticism with attitude.

BAD NEWS: A bit crowded at the keyboard. Can't play with four.



reviews

NASCAR Racing

DEVELOPER: Sierra On-Line

CONTACT: 800-757-7707; <http://www.sierra.com>

PRICE: \$54.95 (street)

REQUIREMENTS: PowerPC, 16MB of RAM, 15MB of hard disk space, supports joystick and driving wheel/pedal combo

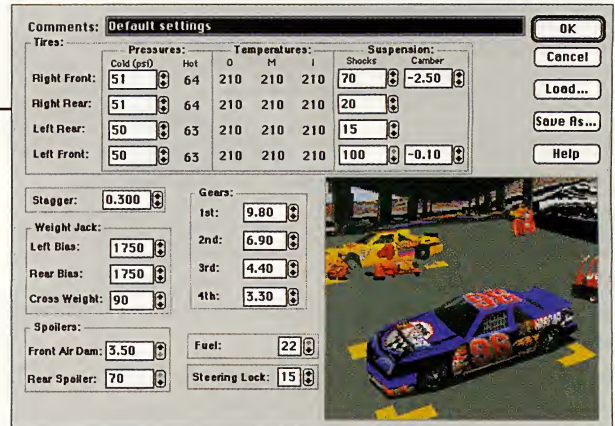
If you've ever wanted to drive a high-performance, state-of-the-art stock car, here's your chance. For most of us, NASCAR Racing from Sierra On-Line will be as close as we're going to get to professional racing. Like its sibling, IndyCar Racing II (reviewed in "MacAddict," Nov/96, p82), NASCAR Racing is much more than just a car racing game. It's an extremely detailed simulation with lots (and we mean lots) of parameters to tweak.

If you're one of those folks who likes to jump into gameplay without reading the manual, forget it. A stock car is a very complicated piece of machinery and NASCAR Racing simulates that complexity. It lets you make all of the adjustments you'd make to a real car, such as how much fuel is in the tank, weight balance, shift ratios, spoiler settings, and more. If you're serious about winning, you'll have to find the settings that let you get the optimum performance out of the car. The well-written, 200-page manual covers the options in detail. Notes from real NASCAR drivers give you tips on setting up and handling the car on each course on the NASCAR circuit. If you love to tinker, you'll love the depth here.

Little things, such as tire wear and weight balance, make a big difference in the handling and your ability to control the car. On the subject of control: It can be hard to keep the car on the track using the keyboard or the mouse, and you may spend a lot of time bouncing the million-dollar racer from wall to wall. An analog joystick, or better, a driving wheel, is necessary to get the most out of the game.

As well as customizing how your car handles, you can customize its appearance with paint and decals, which can be imported as PICT or PCX (a PC graphics file format) files. You can also customize your pit crew's uniforms. This is a grandly fun feature, especially if you've never had Barbie dolls.

Your pit crew members play an important part in NASCAR Racing. While driving, you can communicate with them to set up changes to the car. If you find that your settings aren't quite right, you can radio ahead to have the pit crew ready to change the specs at your next stop. You can communicate via function keys, or you can actually talk to your crew using Apple's PlainTalk speech recognition. This is not only a big help but also way cool, and a great use of Apple technology. To take advantage of it, you'll need a



WHAT WE TALK ABOUT when we talk about cars: Here's where the real sim part of NASCAR Racing comes into play. You'll need to establish these parameters for each course to maximize your chance of winning.



PAGING MR. BLACKWELL: What's the well-dressed pit crew wearing this year? Well, that's up to you. Custom outfits come in handy—you'll instantly know who's going to take care of your wheel change.



SKIDDING IN THE RAIN: With the scenery detail turned off, the game may not look as cool, but it'll play better on a slower system.

PlainTalk microphone and the corresponding software. By the way, the PC game doesn't have this feature.

Once you've painted your car, set the parameters, and learned how to drive, you're ready to tackle the 15 different tracks. They're no cakewalk, though: The artificial intelligence that controls the other racers is awesome. The computer-controlled cars drive like real (and vicious) competitors, and just making it around the track without getting jammed into a wall gives you a pretty good sense of accomplishment.

The 3D graphics are nicely rendered, but you'll want to turn down the texture-mapped detail on slower machines. The frame rate was acceptable on the Power Mac 8500/150 with full detail. On a Power Mac 8100/110, the detail needed to be lowered to just above "none."

There are plenty of options for race viewing, and even more camera angles available for the instant replay of your racing successes and failures. You have VCR-like control of replay, so you can watch it again and again. This is useful for trying to figure out how the wall

suddenly leapt in front of you in Turn Three.

Overall, this is a truly enjoyable, though very complicated, game. If you're a real racing fan, you'll find more than enough here to keep you busy for a long time. However, if you're the kind of person who doesn't like reading manuals and spending time with a game, then you might want to pass this one by. —John Worthington



GOOD NEWS: Accurate down to the chewin' tobacco. Very realistic feel. Good graphic detail on faster Power Macs.

BAD NEWS: As with a flight sim, many details to manage. Difficult to steer from keyboard or mouse.

reviews



reviews

Virtual Pool

DEVELOPER: MacPlay

CONTACT: 800-4MACPLAY, <http://www.macplay.com>

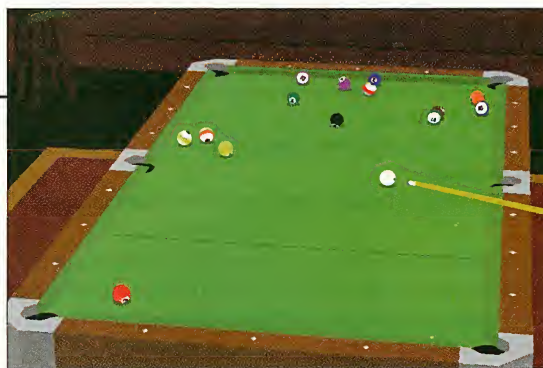
PRICE: \$39.95 (srp)

REQUIREMENTS: Power Mac, 4.6MB of RAM, 13-inch or larger color monitor, 2MB of hard disk space, CD-ROM drive, System 7.5.1 or later

Virtual Pool is impressive; rarely does a game package so realistically translate the intricacies of a sport into the virtual world and effectively teach the techniques and tricks necessary to play the sport in the real world. MacPlay will even give you your money back if your real pool skills do not improve after playing Virtual Pool.

Virtual Pool comes with a series of instructional videos on the history of pool, basic billiards techniques, and a dizzying array of trick shots. The videos could be more descriptive, but overall they provide informative and concise explanations of basic skills, including the effects of "English" and the how-to of kisses, combinations, and banks. The trick shot demonstrations allow you to try the shot on the virtual pool table. Beginners will glean valuable information from these lessons, and more experienced sharks will certainly learn a shot or two to impress their friends and intimidate their opponents.

The gameplay is great. There is nothing you can do with a real cue ball that you can't do in Virtual Pool (short of throwing it at your opponent's forehead). You can see the shot from nearly



YO, SINKER!
The only problem with modem play is that you can't collect immediately on the "bet you I can make this" shots.

any angle; it takes a while to get the hang of it, but the payoff is surprisingly realistic. The background music included on the CD is also perfectly suited to the pool hall atmosphere with such faux classics as "Black Ball."

Players can try any of the basic billiards games against a long list of computer opponents at different skill levels or against human opponents on the same computer, over a network, or via modem. Any way you play it, Virtual Pool offers true-to-life billiards action for players of any level. —*Bart Farkas*



GOOD NEWS: Realistic gameplay. Very informative instructional videos. Network play.

BAD NEWS: Some rules are unusual and not customizable. Video quality is dark.

Heroes of Might and Magic

DEVELOPER: New World Computing

CONTACT: 800-325-8898; <http://www.nwcomputing.com>

PRICE: \$49.95 (srp)

REQUIREMENTS: 68040 or faster, System 7.0 or later, CD-ROM drive, 12MB of RAM (16MB recommended)

As a hero of Might and Magic, you have the usual stuff on your plate: Explore the realm, recruit armies, build towns, learn spells, and find artifacts. So far, so good. Play is entertaining, the various armies grunt amusingly as they fight or die, and the resource management makes sense. We can see why Heroes of Might and Magic won awards as the best turn-based fantasy game in its PC incarnation.

As a Macintosh application, however, Heroes of Might and Magic performs horrendously. To start with, the tutorial... gosh, it isn't there! The manual devotes a good 10 pages to explaining how to play (without actually having to read the entire manual) by walking you through a tutorial scenario. Said scenario, however, does not exist: It was not installed and could not be found. Then, to get the game to launch on our Quadra, we had to *decrease* the game's preferred memory size so it wouldn't bump into the system.

We also found small interface boo-boos throughout the game, but the most egregious problem is that the game sometimes just stops running. The screen fades to black, and there's nothing



NEVER SEEN ANYTHING LIKE THIS, HAVE YOU?
Heroes explore the land on a huge map, riding from castles to mines to mysterious obelisks.

to do but restart your Mac (we couldn't even drop into the Mac's debugger). This happened on 68040s and Power Macs. Fortunately, an auto-save feature takes you back to the last turn before the crash.

These faults are a shame, because we like playing the game. When it runs, Heroes is engaging. But we'd rather not experience the frustration of waiting for the game to crash. —*Kathy Tafel*



GOOD NEWS: A second copy of the game costs \$15. Cute graphics and engaging gameplay. Auto-save saves your game from crashes.

BAD NEWS: Crashes frequently. Computer opponents take forever to move on 68040 machines.



reviews

Step On It!

PUBLISHER: Casady & Greene

CONTACT: 408-484-9228; <http://www.casadyg.com>

PRICE: \$27.95 (street)

REQUIREMENTS: 68040 or PowerPC, 4MB of RAM, 5MB of hard disk space

A good arcade game excites in us those animal instincts of flight or fight. The best of them keep us poised between the two. Step On It!, Casady & Greene's latest game, offers plenty of features devised to keep you on the edge.

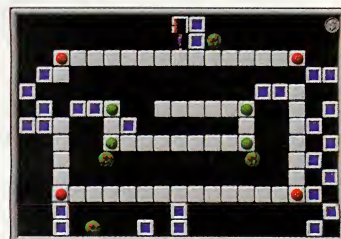
You're a little guy who is trapped in a 100-level world. Your goal in each level is to get a key to open the door to the next level. Keeping you otherwise engaged is an assortment of charming bad guys, from weird, wheelie gizmos to bugs to kids with beanies and ray guns. Watch out—three strikes and the game's over. You also race against the clock and gather bonus points based on time left for each level.

To reach your goal, you have to make or break the blocks in each level. Your armament to get rid of bad guys includes an arrow for single shots and a ball that hits everything in its path. There are plenty of power-ups: bonus points, extra time, more weapons, and bonus multipliers. There are also goodies hidden within blocks that must be broken in order to get to them. Two-

player games can be run either cooperatively or competitively.

At first, the embarrassment of riches, on top of the race against the clock and the three-strikes limit, can make for a panicky experience. Also, the three strikes rule makes it impossible to cover all 100 levels without saving your game and restoring (even though the early levels are too easy).

Patience, grasshopper. Once you're used to the controls, and get beyond level 18 or so, Step On It! kicks into addictive mode. The only weirdness that interrupted our gameplay was that we couldn't open and save games on a level screen or on the scoring screen—you'll have to pause before saving. Overall, Step On It! will take lovers of true Mac games into that happy edge of flight or fight. —Kathy Tafel



WATCH OUT, DON'T STEP ON THAT: Blow up the white blocks to clear your way, and then trap wheelies with your own blocks (the blue ones).



FIND A
DEMO OF
Step On It!
on The Disc



GOOD NEWS: Addictive gameplay. Adorable characters—we knew there was a place for cooties.

BAD NEWS: Saving games takes too many steps. Cheesy soundtrack.

Pro•Pinball

DEVELOPER: MacPlay

CONTACT: 800-4MACPLAY; <http://www.macplay.com>

PRICE: \$39.95 (street)

REQUIREMENTS: 68030 or Power Mac, System 7.1 or later, 13" or larger monitor, 256 colors, CD-ROM drive

Used to be two types of folk who went into arcades: those who played those new-fangled, flashy video games and those who went for the real thing—pinball. Although some tables had utterly convoluted layouts, and you couldn't quite believe that the ball dropped into the gutter again, it was a more honest experience than chasing pixels.

Well, pinball games have been coming to your local computer screen for a while now, and though it's not, physically, the real thing, Pro•Pinball is a pretty good way to get a pinball fix at home, and it wreaks far less havoc with your furniture arrangement.

Pro•Pinball has no real installation; no matter how many data files (and there are more than 120MB of them) you drag onto your hard drive, the CD-ROM must be in the drive to play. (If you have the space, copy the sound files first, then the graphics.) Still, running the game entirely off the CD on a Power Mac 7500, gameplay was smooth and fast, even in "high graphic detail" mode, at 800 x 600-pixel resolution. The realistic sounds and "Rock and Roll, man" music also plays well.

This pinball table is truly modern, complete with digitized voices and multiple "games" such as Bike Race, which play on the



ROLLING, ROLLING, ROLLING: Keep those balls from falling. There's enough loud music and sounds to make you forget that you don't have a line behind you!

virtual dot matrix display (there has to be some sort of irony there). The action stories thrown into the mix on this table make no sense, of course—there's shooting at terrorists, docking in space, other boyish things—but play is addictive, and it's a table you really can learn. After half an hour or so, I was able to make shots more consistently, parlay Extra Ball opportunities, and nudge the table (yes, you can nudge, but be careful—you can also tilt).

Although it would be nice to be able to move to a different table, Pro•Pinball plays better than most computer pinball packages and is about as good a game as you'll get without putting quarters into a slot. In fact, it's better than many "actual" tables in "actual" arcades. One note, though: This table is titled "The Web," but there's no mention of HTML in the whole thing. —D. D. Turner



GOOD NEWS: Fast searches of unopened documents. Immediately displays search results.

BAD NEWS: Doesn't entirely eliminate need for Find File.

reviews

Star Trek: Borg

DEVELOPER: Simon & Schuster Interactive

CONTACT: 800-910-0099; <http://www.mcp.com>

PRICE: \$49.95 (srp)

REQUIREMENTS: 68040 or PowerPC, System 7.5 or later, 8MB of RAM, 20MB of hard disk space, CD-ROM drive

It makes a weird kind of sense that this game would come on a hybrid CD. After all, the raison d'être of the Borgs, the eponymous villains of this episode of the venerable Star Trek franchise, is to "assimilate" alien races—i.e., take into their "collective" the technologies (and bodies) of those they come across.

That said, this CD-ROM's developers should have spent a little more time studying the Borg's methods. Star Trek: Borg doesn't have the OS smarts to switch screen resolutions to the mandatory 640 x 480 pixels. (If you launch it at any other resolution, you'll get an error message stating: "You must change your monitor resolution and restart your computer." Hello? You don't need to restart a Mac.) Other irritations include a strange save scheme and no way to open a saved game from within play in case you make a wrong move.

Speaking of making wrong moves, that's what you'll be doing, mostly. Gameplay consists of watching from a first-person perspective what seems to be an episode of Star Trek, and suddenly having to click at Point A or Point B at "Decision Points," which are usually cued by characters who turn to the camera and say, "What do you think?" A few puzzles are simple enough if you've checked out the scene with a special tricorder given to you by Q (oh, he's the "omnipotent godbeing" who's tossed you back through time to save your father from the Borg invasion 10 years ago and... well, John deLancie is great as Q, and gets all the good lines). However, many of the puzzles' answers are obscure, and some even require sort-of cheating: Sometimes the only way to continue the game is to quit and restart at the last saved point. (Here's where



A FACE ONLY A MOTHERBOARD COULD LOVE:
This is your enemy. He will not listen to reason. And he has bad skin.

a "restore" function would've been nice.) If you fail, Q may reset the game to the Decision Point, or you may watch a grisly endgame, but either way, there's a long video replay to sit through. Tension and fear may be a valid experience in this game, but frustration shouldn't be.

That said, there are reasons to recommend Star Trek: Borg. As long as RAM Doubler or Virtual Memory is disabled, the full-screen video runs nearly perfectly on a 7600/120; the sets and costumes and sets are, likewise, impeccable (a fan said); the acting is good; there seem to be fewer plot holes in this game than in the average episode, and at times, there is a genuine urgency and intensity to the experience. In fact, this adventure might be, at times, too grim for children.

Simon & Schuster is to be commended for releasing this product simultaneously for the Mac and PC (and coincidentally close to the release of the new movie, "Star Trek: First Contact"); however, given some of the technical frustrations, an extra week or two in development could've made the experience that much more stellar.

—D. D. Turner

GOOD NEWS: Decent acting. Ambitious attempt at the Holy Grail of "Interactive Movie."

BAD NEWS: Trial and error and error structure. Ignorance of Macintosh interface.



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cd-roms

ENCARTA '97 DELUXE ENCYCLOPEDIA ■ THE GENIUS OF EDISON ■ WARREN MILLER'S SKI WORLD '97 ■ CASTLE EXPLORER ■ SOUND TOYS

Sometimes, even great minds disagree: like us, like now. While two of us happily shussed away at a ski CD, the third reviewer hiked directly back to the lodge for some warm, après-ski comfort. Exploring a medieval castle sent two of our fearless knights dashing away without their horses. The third? Enchanted by the many wonders of stone-home design. Making music made the day—of just one could-be composer. You get the point. Flutter among this month's selection; one just might brighten your spring. —Joe Mahr

Encarta '97 Deluxe Encyclopedia

PUBLISHER: Microsoft
CONTACT: 800-426-9400;
<http://www.microsoft.com/products>
PRICE: \$79.95 (street)
REQUIREMENTS: 2X CD-ROM,
 System 7.1 or later, 68030 or
 faster, 8MB of RAM



You're fascinated by the War of 1812 (you big nerd) so you fire up Encarta for a map of the key battle sites. Go ahead and click around, but don't expect anything to happen, not even for the sites that are written about in other sections. Stick to the dozen or so paragraphs on the war and you may stumble across an occasional hyperlink, although these exist for only a fraction of subjects that could be cross-referenced. The others? Look them up yourself.

This seems to be the attitude taken by the Encarta folks, who've dubbed their latest

installment "deluxe" because there are two CDs instead of one. You'd think that with two CDs the encyclopedia would be pretty comprehensive. Silly you.

An encyclopedia should cover just about everything, which is no doubt a tough gig to handle even with two CDs. Encarta offers

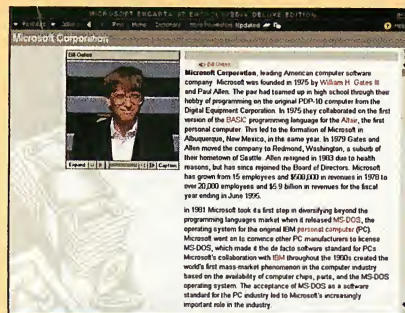
about 30,000 articles, 14,000 photos and illustrations, 1,800 sound clips, and 150 videos and animations. OK, that's not bad. Still, you'd think the self-proclaimed "Ultimate Information Resource" wouldn't be so sloppy. Despite a cumbersome Windoid interface, Encarta's biggest sin is its scattered shortage of hyperlinks. For example, you can learn that Michael Jordan played in the NCAA and the NBA, but you can't hyperlink to sections on either league.

The Last Words:

Mark: So this is the famous Encarta, eh? I'm not terribly impressed.

Judy: By the time I got to the interactive aspect, I was longing for the traditional, book-bound paper standard.

Joe: For an updated version, it's still missing the basic point: quick and easy navigation.



ENCARTA REPLACES PAPER CUTS with a deluxe paperweight.

The Genius of Edison

PUBLISHER: Compton's NewMedia
CONTACT: 800-227-5609;
<http://www.softkey.com>
PRICE: \$45 (srp)
REQUIREMENTS: 2X CD-ROM,
 System 7.1 or later, 68040 or faster,
 8MB of RAM



FLICK THE SWITCH for a shining lesson in invention.

Uh oh. The title looks snazzy, and it profiles one of the most beloved inventors of all time—according to Murphy's Law, the thing must reek.

Well, Murphy can shove a light bulb into his socket, so to speak. Easily navigated and well cross-referenced, the disc also has many QuickTime demos that show off Edison's 13 greatest inventions with wit and style.

Let's take the light bulb. Click on it to hear a description of the product from an Edison impersonator while a QuickTime movie offers up a bird's-eye view of the bulb in action. From there, click away to see why and how the invention works through elegant QuickTime movies and text that comes complete with hyperlinks to a glossary. You can also watch a movie that places the invention in context with the past and present.

A true scientific discovery in itself, this disc would come away with perfect scores if it hadn't tried to recreate history through "The Daily Edisonian." The doofy daily shows what Edison and others would have said about each invention at the time. Can we get crackers with that?

The Last Words:

Mark: Clever design, appropriate music and navigational doodads, amusing clip art and antique ads give it the proper period feel. Oh, and the production credits are a hoot.

Judy: Good overview of Edison's scientific wonders. Voice over is informative, though it makes Tom sound like a marketing master.

Joe: This CD has it all. Science is dumbed-down enough for even a mope like me to figure it out. That's no small feat.

Warren Miller's Ski World '97

PUBLISHER: Multicom Publishing
CONTACT: 800-850-7272;
<http://www.multicom.com>
PRICE: \$24.95 (srp)
REQUIREMENTS: 2X CD-ROM,
 System 7.0 or later, 68030 or faster,
 8MB of RAM

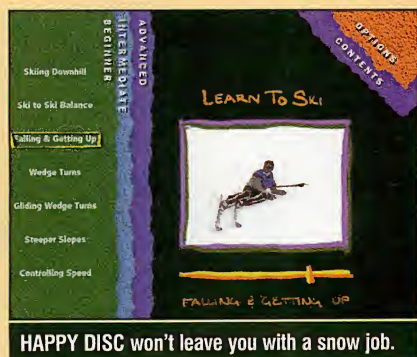


But the title does have its rocky patches. The QuickTime movies on tricky snow moves are borrowed from real movies, which means that loading them takes longer than for snow to melt in Iceland. And, the database doesn't allow specific geographic searches for nearby resorts.

Still, discmakers packed the Ski World database with loads of information and ratings on over 700 resorts, such as which places have the best snow conditions, terrain, lodging, etc. A bonus: Multicom includes software from four Internet providers, not just one, to let you access its online sites. Take that, Microsoft.

Ah, gliding down the Rockies, swishing downhill with a pole in one hand and your Mac in the other.

OK, we're being silly. So you can't take this CD on the slopes. You do get a database of ski resorts, video clips of 20 cool snow moves, a history of skiing, and plenty of QuickTime lessons, most taught by the affable, nutty Warren Miller. A pioneer of ski video, Miller lets his kooky nature shine as he makes the long history of skiing seem as wild as an Olympic slalom.



HAPPY DISC won't leave you with a snow job.

The Last Words:

Mark: On the design front, it's cute as all get-out, with a very appropriate garish, neon, cartoony look. Really a nice job, as fun as it is practical.

Judy: If you crave winter and all its sports glory, this is an easily affordable trip to the mountains any season of the year.

Joe: Sure, Warren Miller's cute. But the CD's low-budget production forces me to consider it only as a coaster for hot cocoa.

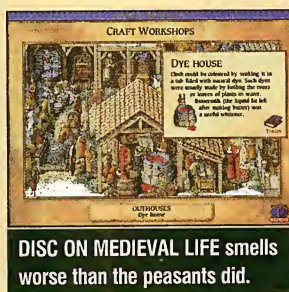
Castle Explorer

PUBLISHER: DK Multimedia
CONTACT: 800-DKMM-575;
<http://www.dk.com>
PRICE: \$29.95 (srp)
REQUIREMENTS: 2X CD-ROM,
 System 7.0 or later, 68040 or faster,
 8MB of RAM



even techno-peasants. Talking characters, when you finally find them, don't start big fights over damsels in distress. Instead, they ask you odd questions about 14th Century Europe that you must research lest you blow your cover as a spy for the king. Yep, that's it.

No blood, just brains. Even the detailed drawings by famed artist Stephen Biesty lose their luster after hours of this tedious point-and-click exploration.



DISC ON MEDIEVAL LIFE smells worse than the peasants did.

The Last Words:

Judy: As much as I enjoyed 'walking' around the castle and learning about life there, the interface got tired. It's hard to get into the spy game, and once there, tediously hard to maneuver. I finally gave up.

Mark: I know it sounds really dull, but trust me, it's anything but. I could spend hours pawing through the painstakingly detailed illustrations, flipping through the extensive text on medieval life and searching for hidden layers to peel away.

Joe: Castle Explorers is just a big, fat, hairy excuse to force people to learn about the days of old by, mostly, looking at diagrams and clicking on things.

Sound Toys

PUBLISHER: Voyager Company
CONTACT: 800-446-2001;
<http://www.voyagerco.com>
PRICE: \$19.95 (srp)
REQUIREMENTS: 2X CD-ROM,
 System 7.0 or later, 68030 or faster, 8MB of RAM



drums, harmonica, guitar, you name it. Customize your keyboard to repeat these sounds, and type up a quick composition without playing a note. Press record to save those musical gems for the grandkids.

It's got rhythm. It's got style. But it's got a lot of error messages too. Plenty of jam sessions ended in the familiar sound of rebooting. By the time your toes start tapping, the CD taps out again.

Annoying your roommates just got easier with this music doodler's delight. However, despite an attractive price tag and a plain and simple interface, the title's long waits and occasional error messages may annoy you as well.

Aspiring composers can create their own opus by simply choosing from one of the title's five "rooms," waiting a good 30 seconds, and then letting the mouse rip. Wave the cursor over nebulous spaces and odd designs to strike up a slew of sounds—bells,



TAP THOSE TOES, get an error, reboot.
 (Repeat steps—again, and again, and again.)

The Last Words:

Judy: Clear documentation and musical key selection would have given it a 4. A super-creative idea, bringing music and music creation to even the most wary composers.

Mark: Well, it's cute. While wiggling your mouse over these abstract soundscapes is a far cry from making real music, at \$20 it's a harmless diversion.

Joe: Nice idea, but there's more error messages than documentation making the composition too hard to score.



Kidz Stuff

Brisbane Elementary School Mac Addicts give you the spin on the latest kids' CD-ROMs.

Mike Mulligan and his Steam Shovel

PUBLISHER: Houghton Mifflin Interactive

CONTACT: 800-829-7962; <http://www.hminet.com>

PRICE: \$19.95 (street)

REQUIREMENTS: 2X CD-ROM, System 7.0 or later, 68040 or faster, 8MB of RAM



The classic tale of a little boy and his steam shovel might captivate nostalgic adults, but kids new to the earth-moving story of Mike and Mary Anne want more games. The four activities the title *does* offer range from navigating a maze to matching up square dancers in a dull rendition of concentration. You can also choose to have the story read aloud or play

in the story while it's read to you. Playing, however, means that you get to flip the pages yourself. Reserve this for your youngest of young.

GOOD FOR GRADES: Preschool to 3

LIKES: "It has very fun games and it teaches you how to read." ■ **Rebecca**
"It teaches you a lot about steam shovels." ■ **Max**

DISLIKES: "I didn't like that they didn't have that many activities." ■ **Eric**
"The games are hard to do because they do not work and they have no instructions." ■ **Holly**

SOUND ADVICE: "Make one more activity to do and that is driving the steam shovel." ■ **Daniel**

FINAL REPORT: Mike and Mary Anne are simply dull, even today.



CLASSIC STORY loses steam after four short games.

Meet the players...



Holly Miller, Age 10, Grade 5
Expertise: Soccer
Pick of the month: Stay Tooned!



Michael Kountz, Age 10, Grade 5
Expertise: Bowling
Pick of the month: Stay Tooned!



Max Oliva, Age 10, Grade 5
Expertise: Sports
Pick of the month: Stay Tooned!



Daniel Lam, Age 10, Grade 5
Expertise: Math
Pick of the month: Stay Tooned!



Paul Jimenez, Age 10, Grade 5
Expertise: Art
Pick of the month: Stay Tooned!



Hilary Waldo, Age 10, Grade 5
Expertise: Soccer
Pick of the month: Stay Tooned!



Rebecca Waldo, Age 10, Grade 5
Expertise: Drama, ballet
Pick of the month: Stay Tooned!



Eric Griffin, Age 10, Grade 5
Expertise: Sports
Pick of the month: Stay Tooned!

Sierra's School House Science

PUBLISHER: Sierra On-Line

CONTACT: 800-757-7707; <http://www.sierra.com>

PRICE: \$30 (street)

REQUIREMENTS: 2X CD-ROM, System 7.1 or later, 68040 or faster, 8MB of RAM



Studying really pays off in this two-disc science quiz that comes packed with a hefty hodgepodge of quizzes, games, animation and movie-making activities, film clips, songs, paint tools, a diary, and more. Score science quiz points to play a selection of simple games. Don't feel like doing the homework? Check out the "free" activities that vary from stargazing to filmmaking.



SCIENCE SEEMS simple with such fun incentives.

GOOD FOR GRADES: 2 to 5

LIKES: "It actually teaches things in a fun way. Kids have to earn points by getting answers right. You have to have a lot of points to play the games." ■ **Hilary**

"It was fun. It has games with hard or easy questions. It was cool." ■ **Rebecca**

DISLIKES: "You need a lot of points to get into certain games." ■ **Michael**

SOUND ADVICE: "Make it so you could walk anywhere you want, make more places you could go." ■ **Daniel**

FINAL REPORT: Dangle a game in front of kids and they'll learn anything



Bears At Work

PUBLISHER: Palladium Interactive

CONTACT: 800-910-2696; <http://www.palladiumnet.com>

PRICE: \$29.95 (street)

REQUIREMENTS: 2X CD-ROM, System 7.1.1 or later, 25MHz 68040 or faster, 8MB of RAM



Soul-searching tots looking for a little direction in their lives, could bear watching this cute career tutorial that features 26 different bears singing about their jobs. Kids can sing along to the songs that cover every line of work from adventurer to zoo keeper. They can also jam along with the tunes in the Music Studio or edit different sounds in the Sound Studio. Artists who lack musical inclination can paint scenes from the story or play with props to make a collage. The Real Bears branch of the Big Fun House tells kids all about the living, breathing animals.



CAREER-BASED BEARS do a bang-up job.

GOOD FOR GRADES: Preschool to 3

LIKES: "I liked to make the collage where you get a lot of stamps and put them together. I also liked the fan club." ■ Paul

"It teaches you about different bears and where they live and much more." ■ Rebecca

DISLIKES: "The music was bad." ■ Michael

"Even though I didn't find this game fun, littler kids, I think, would have loads of fun and a learning experience all at once." ■ Hilary

SOUND ADVICE: "Make the bears play with you." ■ Daniel

FINAL REPORT: A bear necessity for career-driven preschoolers.

Big Science Comics

PUBLISHER: Theatrix

CONTACT: \$30 (street)

PRICE: 800-955-TRIX; <http://www.theatrix.com>

REQUIREMENTS: 2X CD-ROM, System 7.1 or later, 68030 or faster, 8MB of RAM



A bunch of bungling Bumptz have crashed their spaceship in Bette's backyard here on Earth and you, along with Mo the Pack Rat, have to help them escape from Bette's basement and make it back to their ship. But bouncing these little buggers from the house to the garage requires that you stick to your scientific principles as you learn about density, weights, measures, energy, equations, force, and friction through a series of scientific challenges.

GOOD FOR GRADES: 2 to 6

LIKES: "I liked that some of the challenges of the weight and suctions were more challenging than I expected." ■ Eric

"The colors were neat. It looked like a real comic book that talks." ■ Hilary

DISLIKES: "Sometimes you need help (or clues) to find a solution to get somewhere and it gives you the same clue!" ■ Rebecca

"There's not really anything about this program that I don't

like except you can't move the person to walk or something like that." ■ Daniel

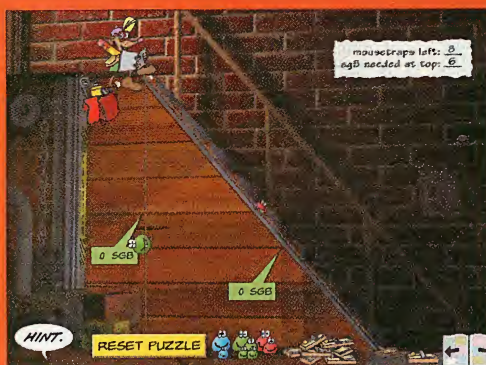
SOUND ADVICE:

"Better instructions. They should let you do more. That's all I want to change."

■ Hilary

FINAL REPORT:

Stingy clues leave someday-scientists puzzled but pleased.



SILLY ALIENS use every scientific trick in the comic book.

The Way Things Work 2.0

PUBLISHER: DK Multimedia

CONTACT: 800-356-6575; <http://www.dk.com>

PRICE: \$39.95 (street)

REQUIREMENTS: 2X CD-ROM, System 7.0 or later, 25MHz 68LC040 or faster, 8MB of RAM



Cute drawings and cuddly woolly mammoths don't always cut it now that kids expect a big bang for every buck. David Macauley's clever drawings and simple descriptions of inventions, inventors, and the principles of science that bring it all together taste terribly bland to kids who are used to educational offerings sweetened with cartoons, games, and animated adventures. Although packed with information, this dish lacks the crucial spice that keeps kids begging for seconds.

GOOD FOR GRADES: 4 and up

LIKES: "I liked that they showed how a spray can works and if you look at my hair you'll see why." ■ Eric

"It helps you learn how things work, like a rocket, and there's pretty good graphics in the program." ■ Daniel

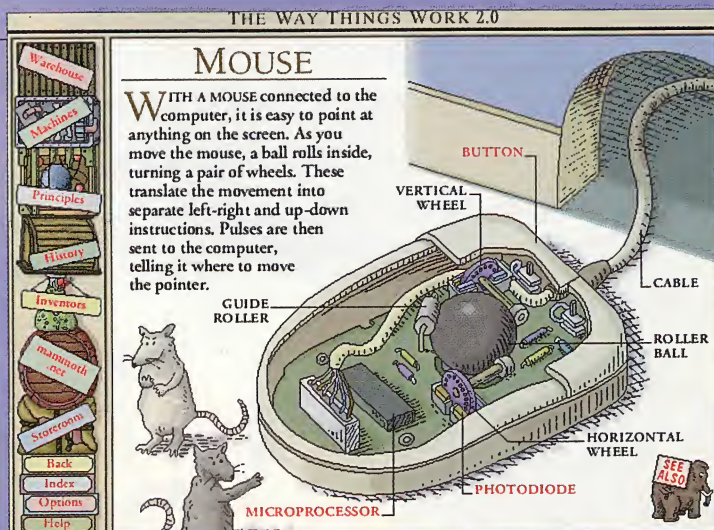
DISLIKES: "I didn't like it when the man on it talked because he was boring. Every minute you turned away he tapped on the screen and said, 'Is anybody there?'" ■ Michael

"I didn't find anything interesting. It is really boring. There

is nothing fun and you don't learn anything." ■ Hilary

SOUND ADVICE: "I would put in some games because kids like it better to learn the fun way and if it is boring they won't pay attention." ■ Rebecca

FINAL REPORT: The mother of invention needs a new recipe.



NO FUN OR GAMES: Guide to how things work just doesn't work with kids.

Stellaluna

PUBLISHER: Living Books

CONTACT: 800-397-4240; <http://www.livingbooks.com>

PRICE: \$29.95 (street)

REQUIREMENTS: 2X CD-ROM, System 7.0 or later, 68030 or faster, 8MB of RAM



Bats aren't evil, blood-sucking, terrorists on wings—they're just different. And you'll probably think they're kind of cute after listening to the charming story of Stellaluna, a young fruit bat that is separated from her mom in a near-tragic accident and is raised by a family of birds. Stellaluna shows you that animals (and maybe even people) can be different and still get along. Have the story read aloud or point and click your way through the title's beautifully illustrated pages for hidden surprises. A bat quiz will test your knowledge when you're through.

GOOD FOR GRADES: Preschool to 2

LIKES: "I liked that the quiz taught me so much about bats." ■ Eric

"It is a very good story with a very good plot." ■ Hilary

DISLIKES: "I thought it was sad when the owl almost got Stellaluna and her mother." ■ Holly

"You cannot play a lot in this game, you can't move Stellaluna to a cave or anything, and you cannot type the answer in the quiz." ■ Daniel

SOUND ADVICE: "Make the pages flip faster." ■ Max

FINAL REPORT: Kids like it right off the bat.



CHARMING BAT TALE teaches diversity.

Learning in Toyland

PUBLISHER: Davidson

CONTACT: 800-545-7677; <http://www.david.com>

PRICE: \$20 (street)

REQUIREMENTS: 2X CD-ROM, System 7.1 or later, 68040 or faster, 8MB of RAM



The fidgety four-year-old looking for a little action to liven up the downtime between "Sesame Street" and "Spiderman" will find hours, no... days, no... weeks of educational fun in Toyland. Six activity centers have tots building cars, baking cookies, and delivering packages, as well as drilling screws, pounding nails, telling time, and learning which animal says, "meow" with the same durable—now digital—toys we all grew up hitting each other over the head with as kids.

GOOD FOR GRADES: Preschool to 1

LIKES: "I liked that the screwdriver, and the hammer and the drill all showed the kids the right way to do it." ■ Eric

"They show you letters. They show you numbers. They show you how to make things. And, they give you a little fun to top it off." ■ Rebecca

"I liked that to make the car you had to pick a pair of wheels and then the roof and the body." ■ Paul

DISLIKES: "I didn't like the place where you could screw and hammer things together."

■ Michael

SOUND ADVICE: "At the making your car place, it should let you drive the car that you made."

■ Daniel

FINAL REPORT: Toyland teems with hot spots for tots.



TOYLAND TEACHES with Fisher-Price fun.

Stay Tooned!

PUBLISHER: Funnybone Interactive

CONTACT: 800-545-7677; <http://www.stay-tooned.com>

PRICE: \$40 (street)

REQUIREMENTS: 2X CD-ROM, System 7.1 or later, 68040 or faster, 8MB of RAM



Television's most troublesome 'toons have busted out of the small screen and taken over your apartment building with their annoying antics. Your job is to track them down and capture them with the remote control—if you can find it. Feel free to search every apartment in the building through a mix of point-and-click observation and serious gameplay. Funny songs, smart-aleck commentary, cheap puns and timeless gags, all combined with thrilling 3D effects and special 3D glasses make this game an absolute must-have... for adults, too.

GOOD FOR GRADES: 5 to Adult

LIKES: "I liked the TV at the beginning with the different channels like Whinefeld and Frauds." ■ Holly

"This game had very, very good graphics and colors and lots of places that you could go and see." ■ Hilary

"I liked everything about the program." ■ Paul

DISLIKES: "I didn't like that we cannot go out of the apartment or drive a car outside and you can only stay in the apartment." ■ Daniel

"This program has a lot of bad words." ■ Max

SOUND ADVICE: "I would make the game easier for smaller kids." ■ Michael

FINAL REPORT: Wise-cracking game "toons" kids in to real quality programming.



TROUBLESOME 'TOONS make for a much better than fair game.

What the Adults Thought

As any parent will testify, kids don't always know a good thing when they have it. Take broccoli, for example. Or long naps in the afternoon. Or shopping for anything besides toys. Or DK Multimedia's The Way Things Work 2.0.

Although the kids would rather chase down rampant 'toons (which, we have to admit, was fun) than examine the inner-workings of a computer mouse, we found David Macauley's detailed drawings charming and informative. As children we learned about inventors, their inventions, and the principles of science through boring black-and-white textbook diagrams and biographies. As adults we found this title's colorful hand-drawn illustrations, whizzy little animations, and thorough cross-references downright lovable. And just so easy to understand.

But there was no running soundtrack. No games. No hyper-friendly stuffed animals talking as though they've just inhaled chestfuls of helium. Of course, the kids weren't impressed. Why should they be when other programs will teach them how an inclined plane works and disguise the lesson as an exciting game?

All childish objections aside, The Way Things Work 2.0 makes a great gift for kids whose parents want to spend more time with their computers—and a really inventive CD-ROM. —Nikki Echler

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how to use AppleScript

how to



FIND A
SCRIPTABLE
DEMO of
Bricks and
sample scripts
on The Disc.

Learn the basics of scripting and make some bricks explode, to boot.

Remember in "Star Trek IV" when Scotty tried to use the mouse to tell the computer to make that high-density glass for the aquarium to save the whales? Although PlainTalk speech recognition technology lets you speak to your Mac to do basic things, we're still a way off from dictating "The Odyssey" to a Mac using System software. However, there is a technology that lets you tell your Mac what to do, right down to changing the characters in a file name, and it is available to anyone using System 7.5 or later. It's AppleScript.

Usually, you "talk" to your Mac with a mouse and keyboard or a microphone. Moving and clicking your mouse or typing keys sends *events* to the Mac OS. The Mac OS then redirects the events to the current application for interpretation. With AppleScript, these events can be translated into a language that looks surprisingly like English (or whatever your native tongue is). Using AppleScript, you can make scriptable applications talk to other scriptable applications. For example, you could make an AppleScript that grabs your e-mail and puts it into a Claris FileMaker database.

Or you could do something silly. In our review of Gryphon

Bricks (Oct/96, p65), we say that you can create QuickTime movies animating your bricks. When we made a movie for the review, it took us more than three hours to move the bricks and snap the pictures to capture about 30 or 40 frames. If only there were a way to tell the program to move bricks along a path and to take the snapshots for the movie. Because Gryphon Bricks is scriptable, and uses AppleScript to make its movies, there *is* a way. In this example, we will create bricks, make them "explode," and record the explosion as a QuickTime movie. Consider this a crash course in AppleScript—minus the language lab. We'll show you the basic building blocks for making an AppleScript.

Understanding the AppleScript Dictionary

Like any other language, AppleScript has nouns and verbs and prepositional phrases. It also has very specific rules about how to construct a sentence. That's because a computer is a literal-minded beast and can't infer meaning from context. (That's not quite true—sometimes it will infer meaning. If a programmer wasn't clear enough in writing the instructions, your Mac will do unexpected things with those instructions. We call that a "bug.")

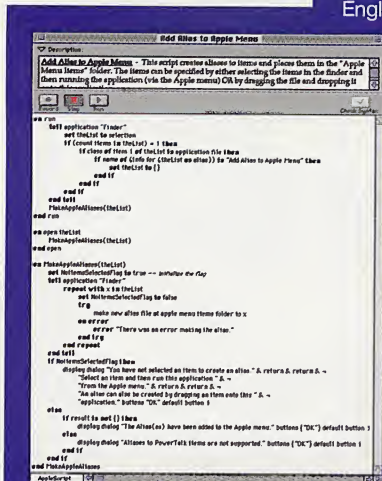
When working in a new language, you use a dictionary. Working with AppleScript is no different. For you to be able to talk to an application, the programmers have to add a dictionary so that AppleScript can use words that the application understands. You can read this dictionary from within the Script Editor when you are building scripts. Let's look at Bricks' dictionary.

Open the Script Editor (inside the AppleScript folder in your Apple Extras folder). Ignore the untitled document for a minute and choose Open Dictionary from the File menu. If you have Gryphon Bricks, navigate to the application and open it. Otherwise, use the demo on The Disc.

What Goes Where?

AppleScript is made up of many pieces that get strewn all over your hard disk. Snooping into the System Folder, inside the Extensions folder you'll find the AppleScript extension, ObjectSupportLib (if you're on a Power Mac), and Finder Scripting Extension. There's also a folder called Scripting Additions. This folder contains additions to the AppleScript language. Just as English adds new words (such as *officing*) to accommodate changes in usage, AppleScript also grows to fit new features. Scripting additions are sometimes referred to by their file type, "osax" (and the plural "osaxen"). Inside the additions folder is another folder called Dialects. Most North Americans will have English Dialect in this folder. International users will have an appropriate dialect instead.

To write your own scripts, you need to install AppleScript from your Apple Extras folder—depending on which machine you have, it already might be installed on your hard drive, or you can find it on your System software CD-ROM. Inside the AppleScript folder that is created in the Apple Extras folder, you'll find the Script Editor (an application for creating AppleScripts) as well as a collection of Automated Tasks. Inside the tasks folders you'll find prefab scripts useful for adding aliases to the Apple menu and for sharing files.



AppleScript Dictionary

1. IN THE LEFT COLUMN ARE the words that Bricks understands. Selecting a word on the left brings up a definition in the panel on the right. Nouns (or objects) appear in *italics*, verbs (or commands) in plain text. Words are divided into suites based on functionality. For instance, every "System 7 savvy" application must be able to perform the four verbs in the Required Suite.

2. WORDS IN THE CORE SUITE are functions that most applications can perform. For instance, most applications save documents, make new ones, and move selections. With these nouns and verbs, you make sentences such as "move selection to end."

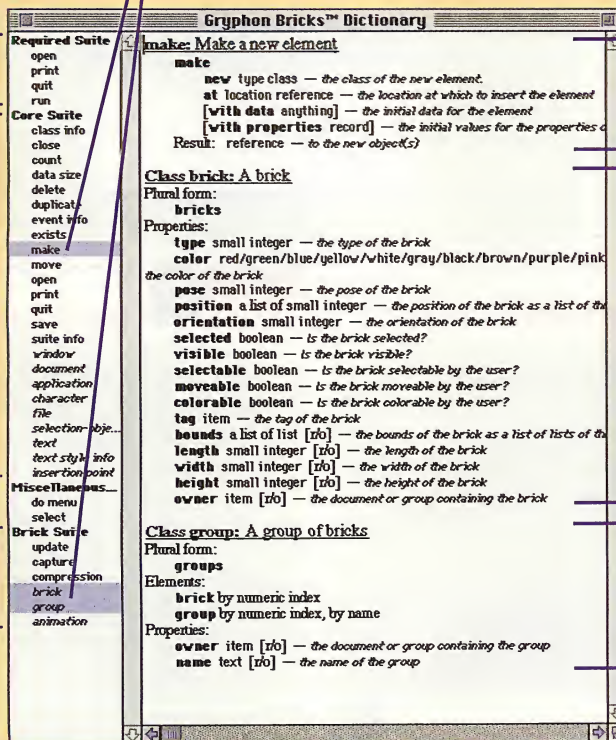
3. WORDS THAT ARE APPROPRIATE to only a single application are in their own suite. The Brick Suite contains three verbs that describe capturing QuickTime movies, two nouns that denote the bricks (brick and group), and one noun that refers to the current QuickTime movie.

4. SELECTING THE VERB "make" and the objects "brick" and "group" gives us definitions of the words.

5. EACH VERB DEFINITION INCLUDES information on the complete syntax. Words in **bold** are keywords (words that the AppleScript compiler looks for when you save your script—you must spell them exactly the same way). Words in plain text are the objects you put in the sentence. Words in *italics* after a double-dash (--) are comments about the previous phrase; AppleScript's interpreter skips over them. Phrases between brackets are optional. The result is the application's response to your action.

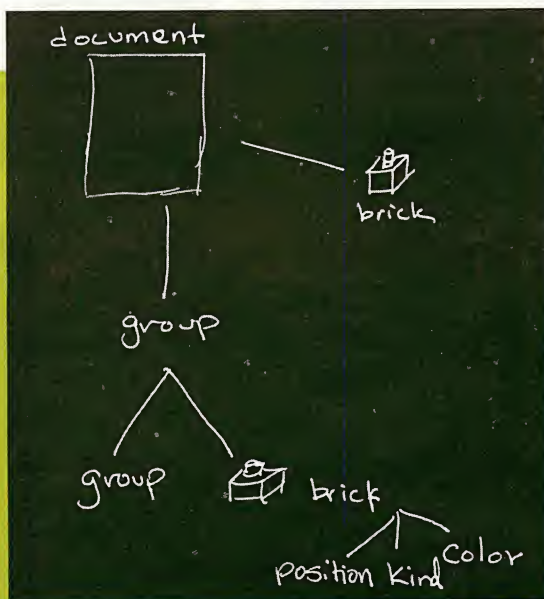
6. AN OBJECT (OR CLASS) DEFINITION INCLUDES information on the object's properties and on whatever other objects it can contain. A brick is the smallest element in the Gryphon Bricks lexicon and, like an atom, if you split it any farther, it falls apart. A brick has properties. It can be red or green, or a block, or a door, or in the middle of the screen, or off to one side. Properties marked with "[r/o]" are read-only; you cannot change them.

7. A GROUP IN BRICKS can contain other groups or individual bricks. When you construct phrases such as "make new brick," you have to tell that phrase to a higher-level object, or nothing will happen. In AppleScript, you tell objects to do things, and you must refer to them in the proper order—by where they are in the hierarchy.



STEP 1 Draw a Hierarchy Tree

It's hard to remember which objects can contain which other objects when working in a new program. It's a good idea to draw an object hierarchy tree (think of a family tree) to keep everything straight. The application (Bricks) is the base of the tree and can contain both bricks and groups. Groups, in turn, can contain individual bricks or other groups. Individual bricks are farthest down the chain.



Spot A Scriptable App

You can tell if an application is scriptable by checking the Script Editor for a dictionary. Some popular scriptable applications include the Finder, Claris' FileMaker Pro, QuarkXPress, StarNine Technologies' WebSTAR, Qualcomm's Eudora Pro, Netscape Navigator, and Peter Lewis' Anarchie. You might have noticed that those last few are Internet programs. We'd be willing to bet that the popularity of Macintoshes on the Internet is due more to the scriptability of Internet clients than any Internet strategy Apple might have.

how to

tips

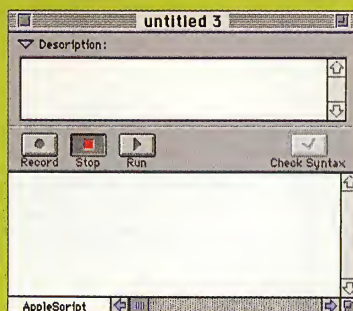
STEP 2 Learn the Language

We can refer to Bricks' objects in several ways. In one sentence you can say, "tell document "my masterpiece" of application "Gryphon Bricks" to make new brick." If you have a lot of things to say to a particular object, you can enclose them in *tell blocks*:

```
tell application "Gryphon Bricks"
    do something
    do something else
    tell document "my masterpiece"
        make new brick
        set baseVisible to false
    end tell
end tell
```

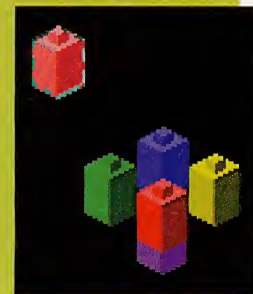
STEP 3 Record Your Actions

Bricks is a recordable application, so you can find out a lot about how to write scripts for it just by recording your actions. First, open the Script Editor (if it isn't open already) and create a new document. Click the Record button. A tape recorder icon appears in the Apple menu to remind you that recording is on.



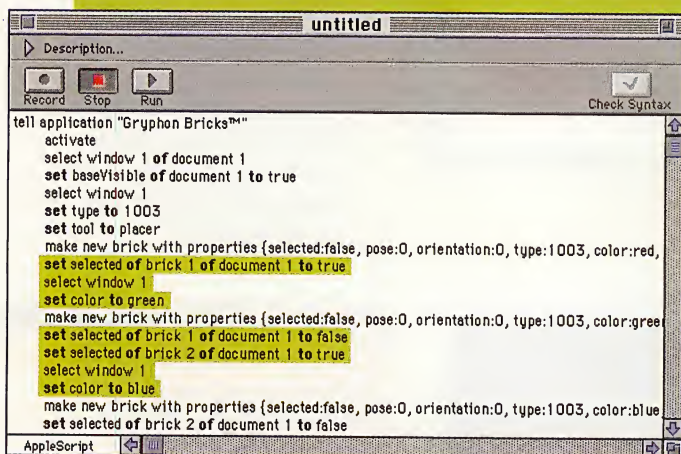
STEP 4 Make the Bricks

Launch Bricks. Turn off the green base plate. Create six bricks of different colors and then move one about an inch in any direction so you can see how AppleScript phrases the moving process. Switch back to the Script Editor and click the Stop button. Bricks is verbose; if you're not careful, it will quickly fill the 32K text limit in the Script Editor document.



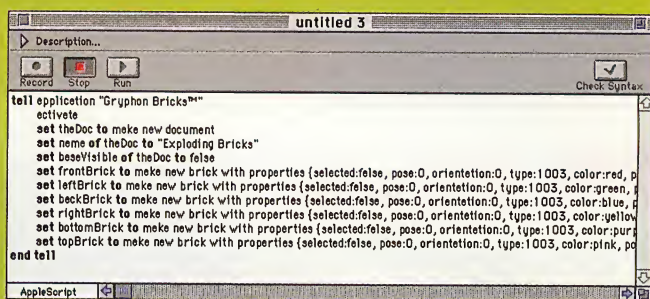
STEP 5 Clean Up the Script

Seeing all the verbiage shows how Bricks works, but you don't really need all that junk. Clean up the script by deleting the lines between the "make new brick" lines. Don't bother with this part of the script, because you aren't going to drag bricks around with the mouse; also, because the color and type of the brick are part of the properties that are set with each new brick, you don't need that text, either.



STEP 6 Store the Results in Variables

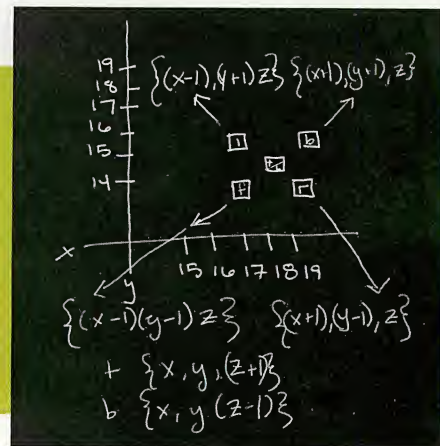
Instead of just repeating the actions in your script, store the results of actions in *variables*. Unlike other computer languages, you don't always need to declare a variable before you use it. The first variable you see in this example is "theDoc"—it refers to the new document. Next, name the document and turn off Bricks' base plate. Instead of making bricks randomly, name them logically. Here, "frontBrick" is the brick that's in front, and so on. Using this syntax stores the result of the "make new brick" command (a reference to the newly made brick) in the variable "frontBrick." Now whenever you need to tell the front brick something, you can just say "frontBrick" instead of "brick 1 of document 1." Your cleaned-up script should look something like this:



STEP 7 Figure Out the Path for Bricks

Now comes the tricky part. Although you'll use math and geometry, they are not integral to AppleScript. Barbie might say math is hard, but it really isn't. This is simply the groundwork for figuring out how to make a path along which to animate the bricks. For this example, because we really didn't know how Bricks stored items, we drew a graph and placed the bricks on it. We took the positions from the recorded "make new

brick" statements. For example, *f* is the frontBrick at position {17, 14, 0} and *l* is the leftBrick at position {17, 16, 0}; *t/b* is the topBrick and bottomBrick at positions {18, 15, -3} and {18, 15, 3} (it's hard to draw the third dimension on a piece of paper). Next we drew arrows indicating the direction in which each brick should move during the explosion. From these arrows we figured out the equations needed to move each brick.

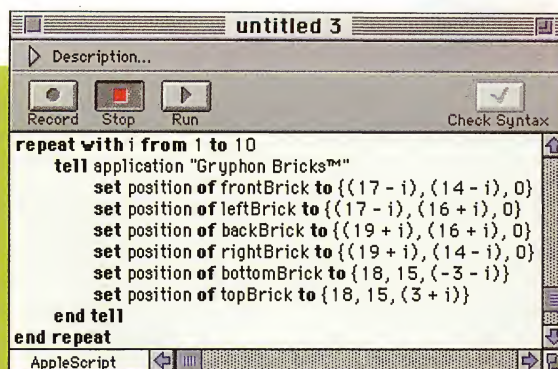


STEP 8 Make the Bricks Move

It's time to translate concept to reality. To make the bricks move, use AppleScript to set the position to new coordinates. Use the equations we figured out in the last step to change each brick's x, y, and z coordinates, starting with the original coordinates recorded in Step 4. Rather than repeat a bunch of set position statements to make the brick move over time (x+1, x+2, x+3, x+4, x+5), you'll use

what's called a repeat loop to do the work.

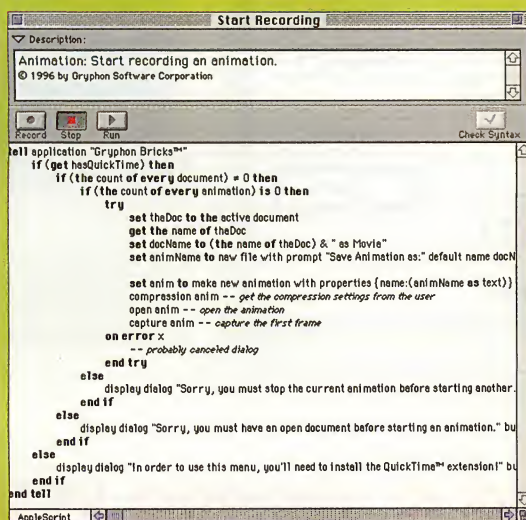
This form of repeat loop lets you keep a counter "(i)" while doing the same thing 10 times. Each time the loop repeats, the counter increases by one. You'll use this counter to add to the positions of your bricks.



how to

STEP 9 Add QuickTime Capture

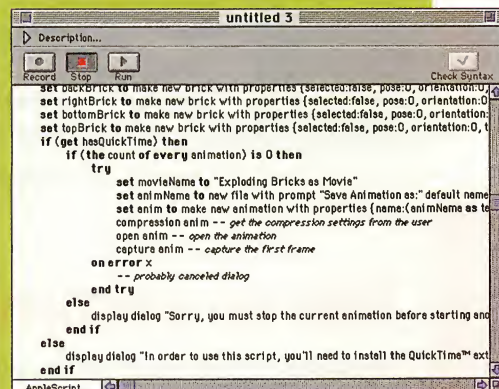
Now that you have an animation, it's time to add QuickTime capturing so you can record it. The easiest way to learn is by cheating. Open up the Start Recording script in the Gryphon Bricks Scripts folder (it's inside the Animation folder). This script has a lot of "if" statements. These check on the state of affairs and perform different actions depending on the state. The first "if" statement checks to make sure you have QuickTime installed on your machine; the second checks to see if there's a document open to record; and the third sees if any animations are already open. After ensuring that everything is set to record, the meat of the script is put inside a *try block*. This block tells the script to try the actions and if there's an error, not to crash inexplicably. The script gets the name of the



current document and makes up a name for the recording. It then asks for a place on your hard drive to store the recording, makes an animation, and stores a reference to it in the variable *anim*. Finally, the script asks for QuickTime compression settings and starts the recording process.

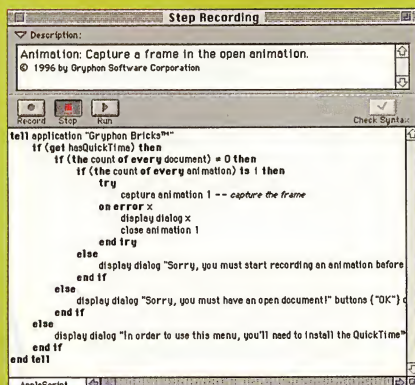
STEP 10 Combine Scripts

Copy the QuickTime recording script from the Start Recording script into the beginning of the script where you made the bricks. You already made a document, so you can get rid of that warning and hard-code the name of the animation into the script.

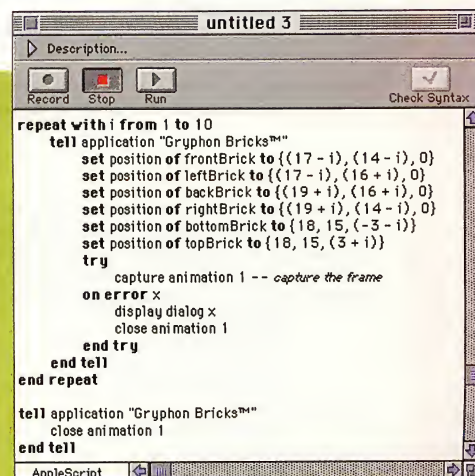


STEP 11 Capture Frames

Next you want to capture a frame after each explosion. Opening Bricks' Step Recording script shows a lot more error code. Because you're writing your own script, you don't need all the error checking that the Step Recording script provides. All you really need are the statements in the *try block*.



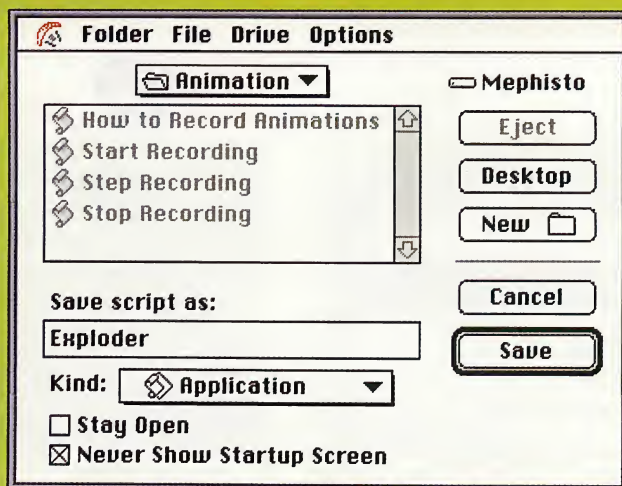
Add this nugget of code inside the repeat loop to get a captured frame every time you explode the bricks by one unit. Opening the Stop Recording script shows more error code you don't need, so just add the "close animation" line after the repeat loop.



STEP 12 Run the Applet

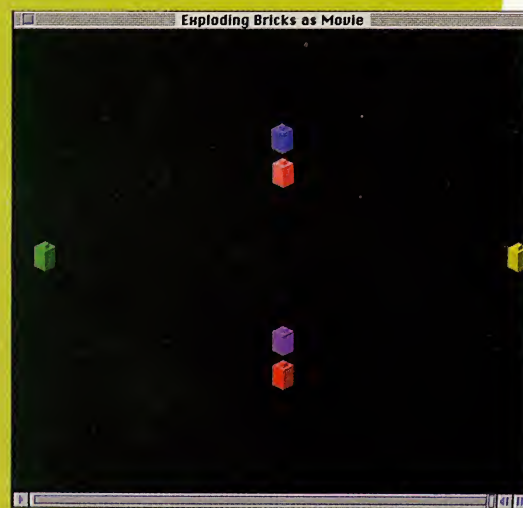
Now you can save the applet and run it. Choosing Save from the File menu will cause the Script Editor to automatically check your syntax. If there's something wrong, the Script Editor will give you an error message and you'll have to fix the mistake before the script will compile. You can save your script as an application, com-

plied script, or a Simple Text file. Save it as an application and check the Never Show Startup Screen option—otherwise this description will display every time you launch the applet. Now you can run your script either by clicking the Run button in the Script Editor or by quitting the Script Editor and double-clicking the applet's icon.



STEP 13 The Final Applet

Double-clicking the applet makes Gryphon Bricks create a spiffy QuickTime movie. Animating a new Wallace and Gromit adventure in Bricks is left as an exercise to the reader. —Kathy Tafel



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how to make a custom palette

Use DeBabelizer to convert graphics to the "browser-safe" 216 colors.

A few months ago (Nov/96, p100) we discussed a nettlesome problem for Web graphics—there are only 216 colors that both Mac and Windows Web browsers can display before resorting to the ugly process known as dithering. And creating graphics using only those 216 colors—what graphics guru Lynda Weinman calls the "browser safe 216-color palette"—is a hassle, even with a powerful tool such as Adobe Photoshop.

But there's a tool that beats Photoshop and every other application at this particular game: Equilibrium's DeBabelizer Toolbox (\$269 street; 415-332-4343; <http://www.equil.com>). Note that DeBabelizer Lite offers translation tools, but not the image-processing functions you need for this project. Already a familiar tool for converting images to different formats, DeBabelizer can also build a custom palette and then to remap any graphic to that palette's colors. Even better, the thing can take a whole folder of images and reduce all of them to the browser-safe palette in one fell swoop.

Hot Tip:

This process will only be useful for flat-color graphics such as logos and icons, the same graphics we recommend for the GIF format. Most photographs look just horrible in 216 colors—stick to JPEG format for them.



BEFORE



AFTER

BEFORE AND AFTER: WE'VE INTENTIONALLY EXAGGERATED the dithering effect to make it a bit more obvious.

DeBabelizer is very powerful, but it's saddled with one of the most confusing interfaces you're likely to encounter this side of Windows 95. Here's the MacAddict guide to creating browser-safe GIF images with DeBabelizer. —*Joseph O. Holmes*

STEP 1

Download the Palette

Before you do anything else, you'll need to create a custom 216-color palette in DeBabelizer. You'll only need to do this once. DeBabelizer will store the palette in its preferences file so you can use it again and again. To begin, download Lynda Weinman's free 216-color browser-safe palette from Lynda's Homegurrll site

<<http://www.lynda.com/hexh.html>>. You can also find it on the CD-ROM that's bundled with her book "Designing Web Graphics."

LYNDA WEINMAN'S 216-COLOR browser-safe palette gives color values for each of the 216 colors that displays on both Mac and Windows machines without ugly dithering.

990033 R: 153 G: 000 B: 051	FF3366 R: 255 G: 051 B: 102	CC0033 R: 204 G: 000 B: 051	FF0033 R: 255 G: 000 B: 051	FF9999 R: 255 G: 153 B: 153	CC3366 R: 204 G: 051 B: 102	FFCCFF R: 255 G: 204 B: 255
FF0066 R: 255 G: 000 B: 102	FF3399 R: 255 G: 051 B: 153	FF0099 R: 255 G: 000 B: 153	FF33CC R: 255 G: 051 B: 204	FF00CC R: 255 G: 000 B: 204	FF66FF R: 255 G: 102 B: 255	FF33FF R: 255 G: 051 B: 255
CC00CC R: 204 G: 000 B: 204	CC00FF R: 204 G: 000 B: 255	9900CC R: 153 G: 000 B: 204	990099 R: 153 G: 000 B: 153	CC99CC R: 204 G: 153 B: 204	996699 R: 153 G: 102 B: 153	663366 R: 102 G: 051 B: 102
6600CC R: 102 G: 000 B: 204	9966FF R: 153 G: 102 B: 255	330066 R: 051 G: 000 B: 102	6600FF R: 102 G: 000 B: 255	6633FF R: 102 G: 051 B: 255	CCCCFF R: 204 G: 204 B: 255	9999FF R: 153 G: 153 B: 255

STEP 2

Open It, Save It, Close It

Launch DeBabelizer and open the palette file. Now, under the Palette Menu, choose Save from the Palette submenu. This will let you create a new palette. After you choose Save, DeBabelizer will present you with a dialog box. Change the number of colors to 216, give the palette a memorable name,

and click Add. The palette will be available from now on within DeBabelizer.

DEBABELIZER'S INTERFACE is so overloaded that we even have to show you how to use the open dialog!



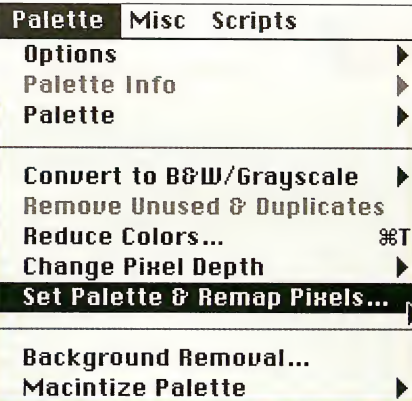
THE ADD BUTTON MAKES THE NEW PALETTE available within DeBabelizer from now on.

STEP 3 Convert a Single Graphic to the Palette

Now that you've created the browser-safe palette, you can convert a single graphic to the 216 safe colors. First, create a copy of the graphic that you want to convert so that you can revert to the original if you need to.

Then open the copy in DeBabelizer. Now with one command, we'll reduce the graphic to 216 colors and remap them to the 216 in the palette. Select Set Palette & Remap Pixels from the Palette menu.

REMAP THE IMAGE
down to 216 colors.

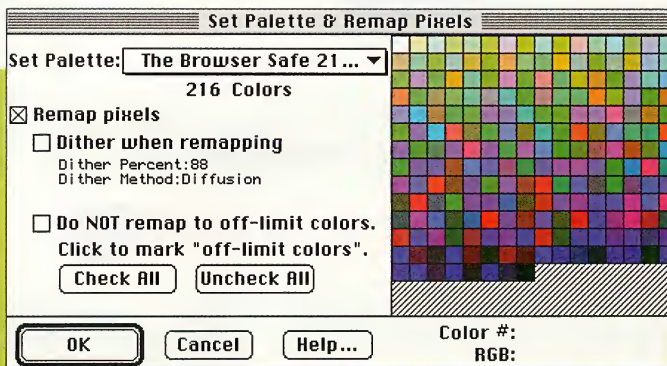


how to

STEP 4 Select the Custom Palette

In the dialog that appears, select the 216-color palette we created earlier from the Set Palette pop-up menu. Don't check the Dither check box. (Remember? Dithering is bad.) Click OK and DeBabelizer will convert your graphic to the 216-color palette. You'll still have to save the resulting file.

DON'T CLICK the Dither checkbox or you might be in for a nasty surprise.

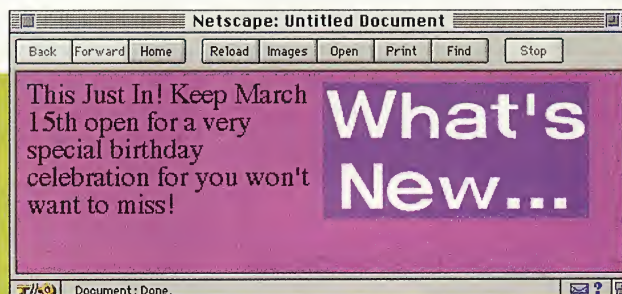


STEP 5 Inspect the Image

Set your monitor to display 256 colors and look at the converted image. If it looks just horrible under the 216-color palette, don't despair—it's probably just not destined for the 216-color treatment. Before throwing it away, try remapping the original with the dither checkbox checked. A dithered graphic, while not as attractive as nondithered, may be preferable to one that's dithered unpredictably by whichever browser opens it. And of course you can simply leave the image as it was—at least people with 16-bit and 24-bit monitors will see the image as God intended.

If your graphic was intended to blend

with your page's background color, this conversion to 216 colors will probably ruin the effect. To restore the blending of image and background, set your page's background color to a browser-safe color. It's actually quite easy, since Lynda's Weinman's palette shows the hexadecimal number of each color in the palette (as does the Pantone ColorWeb Guide). Select the color you want and type the hexadecimal number into the body tag: `<BODY BGCOLOR="#ffcc99">`.



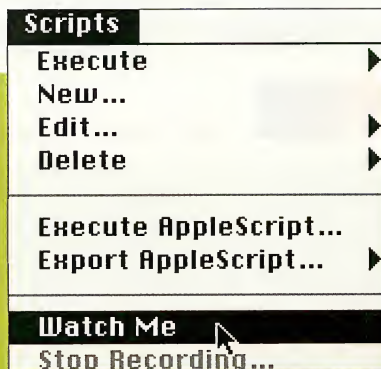
THE COLOR SURROUNDING "What's New..." originally matched the background, but then we had to go and get clever, didn't we?

STEP 6 Start Recording a Script

If you want to convert a batch of graphics, say all of the images in your Web graphics folder, to the 216-color palette, DeBabelizer makes it fast, if not simple. There are three parts to the process, the first of which is creating a script that you can reuse every time you want to convert graphics to the 216-color palette. Don't wince, it's a snap to make a script in DeBabelizer, because it has a handy Watch Me mode. First step is to

start recording. To do this, open any old dummy graphic, so that you can run through the steps of conversion. Just be careful not to save unwanted changes to a precious graphic by mistake. Now, under the Scripts menu, select Watch Me—it begins recording the script.

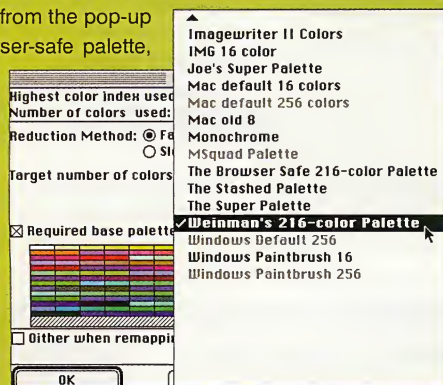
SELECTING WATCH ME makes
DeBabelizer start recording a script.



STEP 7

Record the Actions

Simply repeat all the actions you went through to remap a graphic to the 216-color palette: Open the Set Palette & Remap Pixels dialog box, set the palette from the pop-up menu to your browser-safe palette, and click Okay.



PERFORM ALL THE ACTIONS in the Reduce Colors menu as though you were working on a file.

STEP 8

End the Script

Select Stop Recording under the Scripts menu to end the script. Name and save the script. It's now ready to be applied to a batch of files. Like custom palettes, DeBabelizer will keep the script in perpetuity.

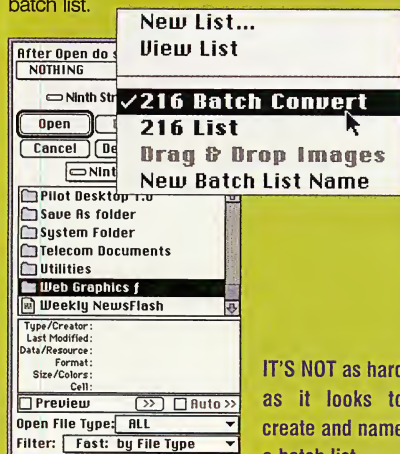


NAME AND SAVE THE SCRIPT in the Edit Script dialog box.

STEP 9

Create and Name a Batch of Files

Now that you've created a script, you need to create a batch of files on which to run the script. Creating a batch is a two-step process: create and name an empty batch in the Open dialog box, and then fill the batch with the files. Though it's not necessary, the process is simplest if all of your graphics are in a single folder. In DeBabelizer's Open dialog box, select New List from the pop-up menu next to the Batch+ button to create and name a New batch list.



IT'S NOT as hard as it looks to create and name a batch list.

STEP 10

Fill the Batch

Next, in that Open dialog, we'll use the Batch+ button to add files to the Batch. You can add an entire folder of files all at once, or add individual files one at a time. Select a folder or file and click the Batch+ button. When you're finished, click cancel. That's right, click cancel. It's confusing, but your batch is finished. If you want to change the files in the batch—don't worry—you'll get a chance a little later.



THE BATCH+ BUTTON adds folders or files to the batch.

STEP 11

Select the Batch

Now that you've specified a specific group of files, you can tell DeBabelizer to perform your Palette Remapping script on them. Under the File menu, choose the Batch submenu and then choose Save. Don't be confused—batch operations are performed in the Batch Save box. In the Batch Save dialog, select your batch from the pop-up menu at the upper left. The folders or files in your batch will appear in a list box.

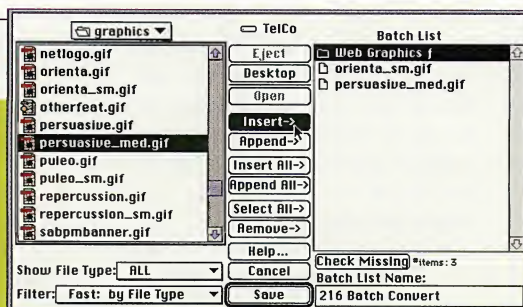


CHOOSE YOUR BATCH from yet another confusing dialog box.

STEP 12

Edit the Batch

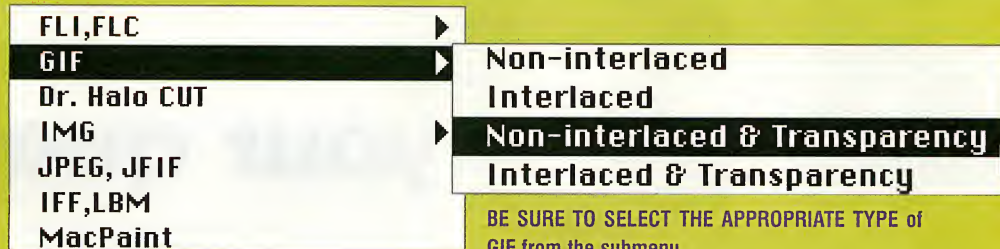
If you don't want to run the script on some of the files on the list, click on the Edit button above the list to make changes. The Edit button brings up the dialog shown here so that you can add and delete files from your batch. When you're done click on the Save button.



HERE'S YOUR LAST CHANCE to make changes to your batch.

STEP 13 Save the Images

Hang in there—we're almost home. Once you've clicked the Save button, DeBabelizer will bring up the Batch Save dialog. Go to the Type pop-up menu and tell DeBabelizer to save the files in the appropriate GIF format.



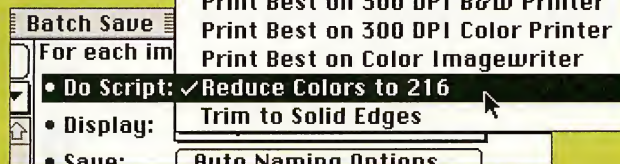
BE SURE TO SELECT THE APPROPRIATE TYPE of GIF from the submenu.

how to

STEP 14 Run the Script

Finally, at long last, select the 216-color remapping script we created earlier and click the Do Script button. DeBabelizer will apply the script to every file in the batch. As a final step, examine the graphics as they appear on each page. Open each of the pages in a Web browser on a monitor set to 8-bit color to see how they turned out. In some cases, you may want to revert to the original graphics. To convert a new batch of files, follow the steps for naming

and creating a new batch, and then the steps for saving a batch with a script.



HOORAY! YOU'RE FINALLY READY to run the script.

Hot Tip:

To convert a single file to the palette, open it in DeBabelizer and go to the Scripts menu. Select Execute and then select your script.

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Q Recently I double-clicked an unknown document and was presented with the Macintosh Easy Open dialog box asking me which program I wanted to use to open the document. I made a mistake and selected the wrong program. Now whenever I double-click a similar document, the wrong program launches and attempts to open the document. How can I undo this?

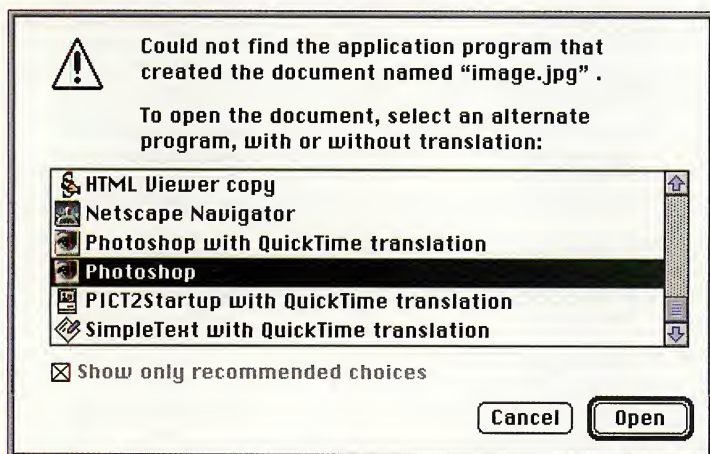
A As you've discovered, Macintosh Easy Open solves one problem and creates another. It allows you to tell the Mac to open particular document types with programs other than the missing ones originally used to create such documents. For example, suppose someone gives you a JPEG image of unknown origin. The Finder knows it was created by Equilibrium's DeBabelizer thanks to its creator code, but since you don't have a copy of this program on your hard drive, it doesn't know what to do when you double-click the file even though your trusty Adobe Photoshop can open JPEG files with ease. Without Macintosh Easy Open, an annoying alert box tells you "the application program that created it could not be found." With Macintosh Easy Open, a dialog box gives you the opportunity to assign an alternate program to open all such files.

holding down the Command and Option keys when starting up until a dialog box appears asking if you want to rebuild the desktop. Alternately, use the shareware program TechTool.)

One thing to note: If you select an alternate with translation, be aware that Macintosh Easy Open creates a folder called Translated Documents inside the Preferences folder. For some reason, copies of converted files are stored here and never deleted. Left unattended, this folder can bloat to considerable size, so be sure to trash its contents regularly.

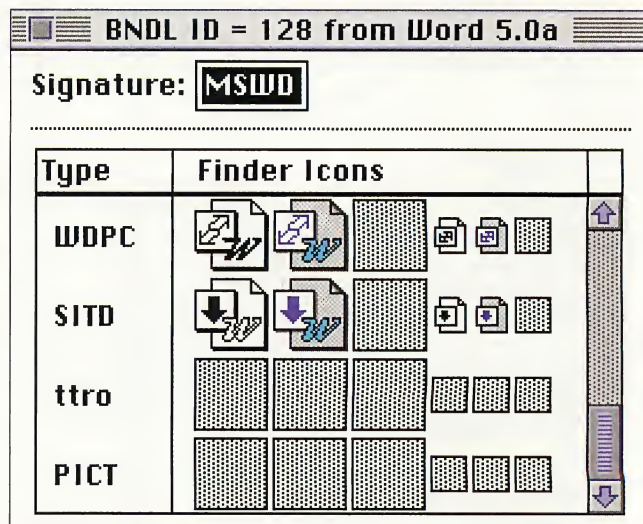
Q I'd like to open read-only TeachText and SimpleText documents (the kinds with the newspaper icon used frequently for ReadMe files) by dragging and dropping them onto Microsoft Word's application icon in the Finder. I know Word can open these files since they contain only text, but when I drag one of these files onto the Word icon, it doesn't dim indicating I can drop it. Is there an easy solution?

A Depends on your definition of easy, doesn't it? With ResEdit, it's no problem. Make a copy of the Word application, launch ResEdit and then open the copy of Word. Double-click the BNDL icon and double-click ID 128. The window that appears shows all of the document types that Word can open. Choose Create New



BE CAREFUL WHEN ASSIGNING ALTERNATE PROGRAMS with Macintosh Easy Open since undoing a mistake trashes all substitution assignments.

If you make a mistake assigning a document type to a program, fixing the mistake is an all-or-nothing job. Open the Macintosh Easy Open control panel and click Delete Preferences. This trashes all of the links you have established to date, not just your latest mistake. After deleting the Macintosh Easy Open Preferences file, you should rebuild your desktop. (You do this by



ADDING NEW TYPE CODES IN THE BNDL resource of a program allows you to drag and drop those types of documents on that program's icon in the Finder.

File Type from the Resource menu. In the BNDL window, click on the four question marks and enter "ttr" in that field (all lower-case). That's the type code for TeachText read-only files. While you're at it, create another type and enter "PICT" so you can drag and drop PICT images, too. Now quit ResEdit, saving your changes. Force quit the Finder by pressing Command-Option-Esc, then immediately hold down Command-Option and rebuild the desktop. When the Finder returns, you should now be able to drag and drop both read-only TeachText and SimpleText documents as well as PICT images onto Word.

HOT TIP

Save that much-loved, custom-created sticky as stationery and it's yours to use forever!

With the Stickies application open and your custom note active, go to the File menu and choose Export Text. A dialog box pops up. At the bottom of the box there's an option to save your note as Stationery. Check this box, name your note, and save it. If you save it in the Apple Menu Items folder you'll be able to access your new stationery from the Apple Menu.

title bar you should see the number of items (visible files and folders) in the current view as well as the used and available space (add these two for total disk size) on the volume.

Q Do I need a PCI-based Power Mac to use a DOS compatibility card?

A No. While Apple's own PC Compatibility Card works on PCI-based Power Macs only—allowing them to run MS-DOS and Windows, but not Windows NT or OS/2—other vendors have hardware emulation options for older Mac models. Orange Micro (714-779-2772; <http://www.orangemicro.com>) offers its OrangePC cards for DOS, Windows 95 and Windows NT in PCI and NuBus flavors. Likewise,

Q Someone just offered to buy my used Power Mac 7200/90 for \$800. This unit has 16MB of memory, a 500MB hard disk, lots of software, and includes a 14-inch color monitor, keyboard, and mouse. Is \$800 a fair price?

A Something is worth only what someone is willing to pay; no more, no less. However, in this case it appears your system is worth more than you've been offered. Anyone considering buying or selling a used Mac should first consult The United Computer Exchange (<http://www.uce.com>) which maintains a list of the average prices for used equipment in the United States. At the time of this writing, the Power Mac 7200/90 is quoted at \$1,100, for the computer itself, with no peripherals or software.

Q How do I determine how much hard drive space remains on my Performa 630CD?

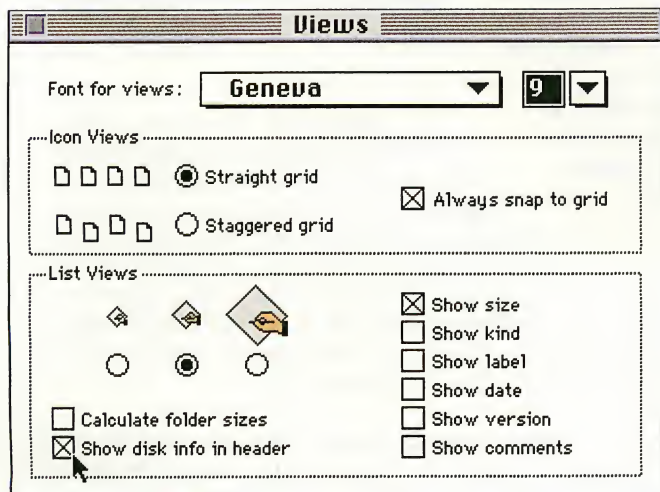
A Regardless of what type of Mac you own, this is quite simple provided you are running System 7.0 or later. Open the Views control panel then select the Show disk info in header checkbox. Double-click your hard drive icon in the Finder. Just below its

Smart System Labeling

It's hard keeping track of everything in your System Folder since there's no standard way to tell what program placed which files where. One way to sort out this mess is to use the Finder's Label menu. The next time you update your Mac's OS, perform a "clean install" first. To do so, run the installer for the System software, and after you click Continue to dismiss the splash screen, press Command-Shift-K to access the hidden "clean install" option. Select Install New System Folder and click OK. Instead of attempting to update the files in your current System Folder, the installer renames the folder and starts from scratch. When the installer finishes, you know that all of the files in your System Folder were placed there by the installer. Open the Labels control panel and rename the red label "Virgin Apple." Double-click your hard drive icon to open its window. Choose By Name from the View menu. Option-click the little triangle next to the System Folder to expand it and all of its subfolders. Double-click the System Folder to open its window. Choose Select All from the Edit menu, then choose Virgin Apple from the Labels menu to color all of the files red. From now on, whenever you see a red file, you'll know that it is part of the original Mac system software from Apple.



LABELS PROVIDE AN EASY WAY TO DESIGNATE which files in your System Folder come from Apple and which got there by other means.



THE EASIEST WAY to determine free space on a hard drive is to select the Show disk info in header checkbox in the Views control panel.

Reply Corporation (408-942-4804; <http://www.reply.com>) sells both PCI and PDS (Processor Direct Slot) versions of its DOS on Mac Card. And if you think you can get away with slower software emulation, don't forget the SoftWindows products from Insignia Solutions (408-327-6000; <http://www.insignia.com>).

Q I gave your book, "The Mac Bathroom Reader," as a gift to a fellow Mac addict. Since you obviously know a lot of Apple's history trivia, maybe you can answer a question for me. I heard that when a Mac's battery dies, the current date in the Date & Time control panel reverts to Steve Wozniak's birthday. Is this true?

A Like most great rumors, this one is too good to be true. When batteries die in older Macs, their clocks revert to January 1, 1904 whereas the clocks in newer Macs revert to August 27, 1956. Neither of Apple's famous Steves was born on either date. For the record, Stephen Gary Wozniak was born August 11, 1950 and Steven Paul Jobs was born February 24, 1955. It's entirely possible that August 27, 1956 was intentionally chosen as a sort of Easter egg that represents the birthday of an Apple employee, but I don't know whom. If anyone has the definitive answer, please let me know.

Q Does adding VRAM to my Power Mac 8500 improve overall system performance or just increase the number of colors that can be displayed on my monitor?

A Adding VRAM does nothing to improve system performance; the only benefit is the ability to display more colors under certain circumstances. VRAM stands for video random access memory. It's a special type of memory that stores the screen image if your Mac is using its internal video capabilities rather than those of a dedicated video card. Not all Macs have VRAM slots, but on those that do, adding VRAM may allow your Mac to display more colors. For example, your Power Mac 8500 comes with 2MB of VRAM, which makes your Mac capable of displaying a maximum of 256 colors on a 20" monitor with 1,280 x 1,024 pixels. Boosting VRAM to 4MB allows the Power Mac 8500 to display thousands of colors at the same resolution. On smaller monitors, 4MB is sufficient to display millions of colors, the maximum possible on any Mac or monitor. Unless you need to display more colors than your current setup allows, don't bother adding VRAM.

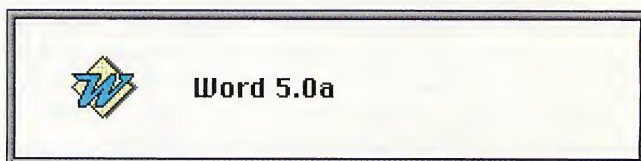
Q With Windows I can switch between open programs by pressing Alt-Tab. Is there something similar for the Mac?

A Sure! What, you really thought there was something you could do in Windows that the Mac couldn't handle? Get real. What you need is Paul Cunningham's freeware extension called TaskMan, or Jerry Du's

shareware control panel called AppTab. With either in your System Folder, press Command-Tab to pop up a little alert box that allows you to switch to another open program. I like AppTab better because it shows icons for all open programs and allows you to change the modifier keys. TaskMan is much simpler, but either utility beats a trip to the applications menu any day. Alternately, if you have Microsoft Office installed, go to the Microsoft Office Manager control panel and check the Enable QuickSwitch box to enable the same functionality that TaskMan provides.



APPTAB ALLOWS YOU TO switch among open programs by pressing Command-Tab. Pick an icon, hit return, and you're off!



TASKMAN ALLOWS YOU TO switch among open programs by pressing Command-Tab. Keep pressing until the program you want appears.

Q I read that if 32-Bit Addressing is turned off in the Memory control panel, the Mac can only "see" 8MB of memory regardless of how much physical memory is installed. My Power Mac 7200/90 has 72MB of memory, but there are no 32-Bit Addressing radio buttons in the Memory control panel. Will my Mac use all of the memory anyway?

A Don't worry, you weren't robbed. The Memory control panel is slightly different for each Macintosh model depending on its capabilities. If the 32-Bit Addressing option doesn't appear in the Memory control panel, either you're still running System 6 or your Mac is always in 32-bit mode. To check, choose About This Macintosh from the Apple menu in the Finder. Total Memory listed in the upper left should be 72MB if all of your modules are properly installed. Anything more than 8MB is proof that you're running in 32-bit mode.

TECH NOTE:
Data resides at particular addresses in memory. These addresses are identified by binary numbers. It takes 24 binary digits to express all the possible locations in 8MB. To address more than that amount of memory, Apple invented 32-bit addressing, which theoretically accommodates locations for up to 4 gigabytes of memory.

Owen W. Linzmayer (AskAddict@AOL.com; <http://www.netcom.com/~owenink>) is a San Francisco-based freelance writer and the author of "The Mac Bathroom Reader." Please submit technical questions or helpful tips directly via email or c/o MacAddict, 150 North Hill Drive, Brisbane, CA 94005.

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WEATHER

LOS ANGELES

Monday

Partly cloudy and cool
55 / 69

Tuesday

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60 / 66

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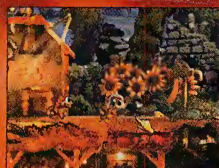


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How Inverse Ink makes CD-ROM comic books appeal to the mass market.

games

Teasers



Creatures

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Contact: 800-741-3043;

<http://www.inscape.com>

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creatures' digital DNA to change behavior. Teach them what to eat and which poisons to avoid. We find this environment oddly reminiscent of Fragg Rock.

Macintosh Archives

Volume II: The Star Wars Collection

Developer: LucasArts

Contact: 800-98-LUCAS;

<http://www.lucasarts.com>

If the action figures, life-size Millennium Falcons, and the movie reruns on cable haven't clued you in

yet, let us tell you. LucasFilm has digitally enhanced the original Star Wars movies for a theatrical release later this year. For Mac fans, this means we get a special collection that includes Rebel Assault I and II, X-Wing Collector's CD-ROM, and the Dark Forces Super Sampler Edition. As a bonus, you get a behind-the-scenes CD-ROM detailing said enhancements. What we'd really like to see is a Princess Leia guide to hairstyling CD-ROM.



Riven

Publisher: Brøderbund

Contact: 800-521-6263;

<http://www.broderbund.com>

No need to hang in a tree for nine days to go on this

magical mystery tour. Due this summer, the team that produced MYST will attempt another blockbuster. Expect more exploration of the links among writing, magic, and the fantastic. We recommend heading to your local bookstore to pick up "MYST: The Book of Atrus." Reading it helps explain this sequel's title.

Flip through the T.V. channels some Saturday morning. If your children haven't taken control of the remote, let the channel on the Fox Kids Network. Ensconced between "Life with Louie" and "The X-Men," you'll find the best thing on TV next to "Babylon 5." It's called "The Tick."

For those unfamiliar with this delightful program, the Tick is a superhero. Like any other superhero, he's got a sidekick: Arthur, a pot-bellied moth. Tick and Arthur live together in The City fighting a never-ending battle with the minions of evil. Villains such as Chairface Chippendale, mad scientists, and the devious Thrakkorzog give the Tick plenty of opportunity to prove he's not just another guy in tights. You will find yourself wearing a perma-grin.

What does a television show have to do with the price of bread? Geniuses at Inverse Ink—a small software house in Mountain View, California—have transformed this Saturday morning cartoon into a \$10 multimedia comic book. Using a Director-based engine, you view an episode of "The Tick"; the current offering is "The Tick vs. The Uncommon Cold." Each page can be read straight through panel to panel. Clicking on a panel either plays a video of that scene, or you can find hot spots that launch very silly things.

While this Saturday morning superhero was our introduction to this multimedia powerhouse, Inverse Ink does much more than just The Tick. In addition to books for three other Fox shows—"Eek! Stravaganza," "Bobby's World," and "Life with Louie"—Inverse also produced four books last year in a DC Comics line for a total of eight titles in eight months created by only eight people.

We found executive producer Greg Armanini setting up his joystick for a well-deserved game of network Descend.

MA: What is the creative process behind your CDs?

GA: For the next Tick book, we'll sit down and watch this season's episodes. If we can sit through an episode twice, we can tell it's sophisticated enough for us to use. "The Tick vs. The Uncommon Cold" was one of the better plays on typical conventions. Everybody has had a roommate. One of the more interesting aspects of the first two seasons was that almost all action took place in Tick and Arthur's apartment and was an exploration of their relationship.

After we pick which episode we'd like to produce on CD-ROM, we talk to the licensor—Fox in this case—and the show's creators, who have favorite episodes. After our episode selection is approved, we start the storyboarding process. Each book has its own look (for "The Tick," we hired Trina Robbins). At this stage, we

discuss the logic of the story and set aesthetic guidelines for the title.

In our first titles we really tried to squeeze the toothpaste from the bottom of the tube—to make sure the story made sense even if you didn't click on every video. We're starting to break away from that. In the Fox titles you really do need to watch the videos on panels. As we go into the future we'd like to break more storybook conventions, but that takes a lot more planning.



Greg Armanini

In
a way, video
controls our
destiny.

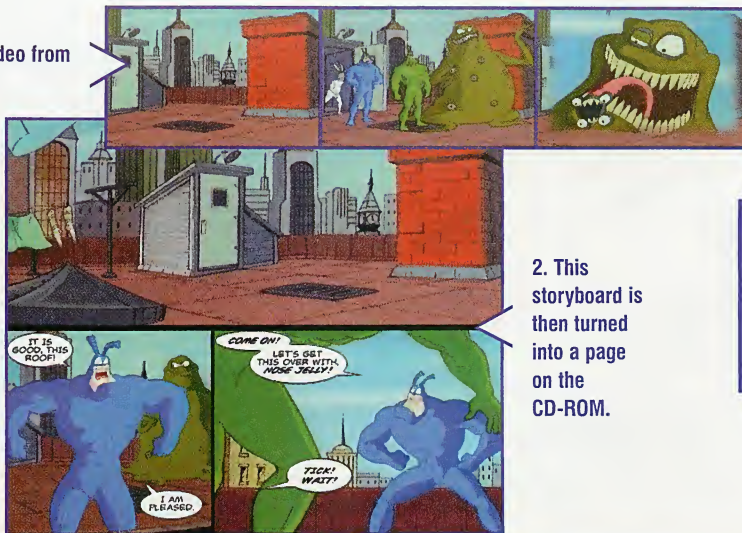
MA: What do you do after the storyboard is done?

DA: We then plan the hot spots and videos for each panel. The urge is to add more and more—feature creep gets bad. We only have a month to produce the title so we can't add everything. By this time, two months have passed just getting approval.

One thing that's hard with the older CD titles is actually getting the original material. With all the mergers—Time-Warner buying DC—the content providers didn't know which warehouse the tapes were in. With these titles, the licensors also wanted to reconcile the old characters with the current universe, which is why you see the gray and black Batman on our cover. And there were some jokes that the


3. Some panels play a video from the show when clicked.

1. Each page in an Inverse comic is planned out on a storyboard.



2. This storyboard is then turned into a page on the CD-ROM.



4. Others panels change the cursor to a tick—like this —when it is passed over a hot spot. When clicked, these hotspots trigger silly animations.



licensors wanted to delete. For instance, at one point a character calls another 'you FEMALE,' as a big insult. We had a hard time redoing those parts because the soundtrack and dialog were mixed together.

MA: What do you use to handle the digitizing?

GA: We have a Miro card in a (cough) PC and save the video to motion JPEG. About one third of our machines are Macs. We use them to do what the Macs are really good at—QuickTime and DeBabelizing. The quality isn't consistent in the older DC tapes. After digitizing it was a challenge to get a consistent color palette across each panel.

Each rev of the technology makes it easier. The Fox shows all have the dialog separate from the music track. As DVD gets more sophisticated they might begin to store the shows digitally.

MA: Do you think DVD will make a huge difference in your life anytime soon?

GA: It will be at least five years before it's commonplace. There's not a lot of need for it now. When movies are released on DVD, though, momentum will start to build. Everybody talks about how the broadcast, music, and computer industries are all in favor of DVD. It's really just the computer industry. No musician has enough material to fill a DVD disc. And the broadcast industry is headed in a completely different direction. What they'd really like is to beam video into your home via direct satellite. They want to cut out Blockbuster entirely. Who needs DVD in that scenario?

MA: Then how will you get people to buy your CDs?

GA: In a way, video controls our destiny. As people become accustomed to buying videos in places like WalMart or the grocery store, they will be more likely to pick up our \$10 CD-ROM in those venues, our job would be that much harder.

We don't know if the market's ready for CD-ROM comic books as a commodity. A real mass market computer is two generations away—where the user doesn't have to do anything. When I buy a book, it's because I'm traveling. I take it with me to pass time. You can't take a CD-ROM traveling yet.

On the other hand, there's a huge gap in the children's software market. For younger kids, you have plenty of edutainment titles, such as Living Books and the Humongous Entertainment titles. For older teenagers, you have games like DOOM. In between there's nothing. And there are parents who might not want their kids to have violent games. Comic books are a safe purchase. "Bobby's World" works for younger kids. The DC comics work for older kids. And the Tick is popular with adults.

MA: What other titles will you be producing in the future?

GA: We will be doing another Tick book. If the books take off, we might have a 'gold' line that would cost about \$15; these would be titles that wouldn't appeal to as broad an audience as Superman does. We'll probably do another Reflux this year. We really would like to do more original work—to rebuild the idea of a story on CD-ROM. —Kathy Tafel

Spoilers



FIND Escape Velocity and add-ons on The Disc.

Rather than devote this space to another three Teasers, we're giving you instead more spoilers for released games. Everyone and their brother has been writing us about December's games feature ("The Soft Stuff," Escape Velocity, p42). The most-used phrase in these letters was "What Babylon 5 plug-in?" This plug-in doesn't include the whole universe, but it does have the Vorlons. At this point, you probably don't want the Vorlons messing with your planets, especially if they've been visited by Shadows.

We digress. Find Escape Velocity and a whole bunch of third party add-ons on this month's Disc. Expand the Escape Velocity universe with new missions and planets created by others. Want to cheat? We've got hacks. To make your own Escape Velocity plug-in, use the included editors. Having trouble creating your own Cyteen and Downbelow Station? Surf on over to <<http://www.Escape-Velocity.com>> to find the world's largest collection of Escape Velocity help.

Super-phat files on The Disc include pictures such as this star map of the Escape Velocity galaxy.





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APS HIGH-PERFORMANCE DRIVES

Model	Capacity	Internal	SR2000
APS Q 4300	4240MB	\$999 ⁹⁵	\$1049 ⁹⁵
Quantum Atlas II	7200 rpm		
APS WD 4300	4200MB	1049 ⁹⁵	1099 ⁹⁵
Western Digital Enterprise	7200 rpm		
APS ST 4300	4148MB	N/A	1199 ⁹⁵
Seagate Barracuda	7200 rpm		



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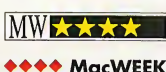
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Model	Capacity	Internal	SR2000
APS Q 9000	8682MB	\$1799 ⁹⁵	\$1849 ⁹⁵
Quantum Atlas II	7200 rpm		
APS ST 9000	8600MB	N/A	2099 ⁹⁵
Seagate Barracuda	7200 rpm		

APS MO DRIVES

Model	Capacity/Features	SR1000	SR2000
APS 230 MO	Up to 217MB	\$299 ⁹⁵	\$379 ⁹⁵
APS PD-4	650MB/4x CD-ROM		399 ⁹⁵
APS 640 MO	640MB		599 ⁹⁵
APS 2.6GB MO	4MB cache		1699 ⁹⁵



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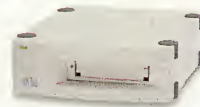
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APS HyperDAT® III DDS-3 DC	24GB	1249.95	1299.95

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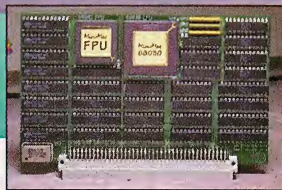


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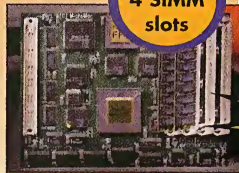
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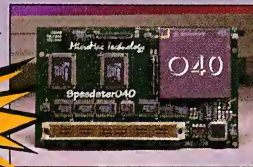
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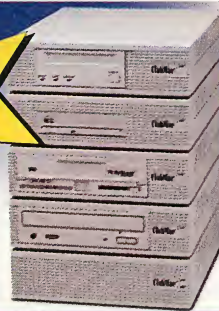
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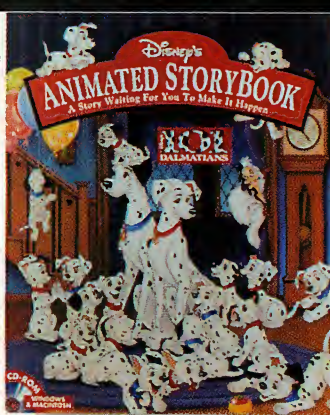
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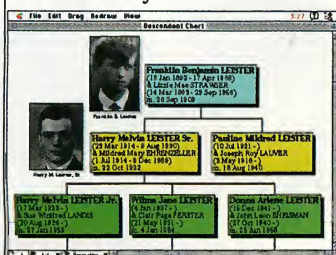


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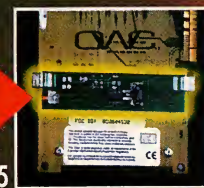
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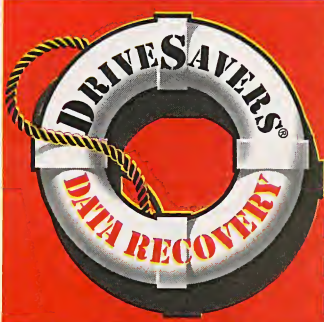
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10. Your 486 works great—as a flower press

7. You can't resist the urge to use "Command Y" to eject your Pop-Tarts from the toaster

3. You paid \$150 for an old Homestead High School yearbook picturing Stephen Wozniak

9. You constantly double-click the bar of soap in the shower

5. You read "Inside Macintosh" to your three-year old Mac whiz instead of Dr. Seuss

2. You are always telling people you can quit using your Mac anytime you want to...

8. You talk in a wild, animated manner about new "extensions" and "peripherals"

6. You wish this was a "Top Five" list so you could get back to your Mac sooner

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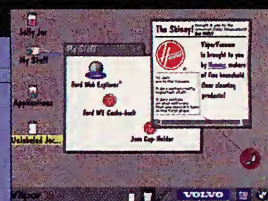
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"Seventy percent of the population has yet to see this thing we call the Internet, and when you consider that 65 percent of America's VCRs flash '12:00,' this is some pretty complicated stuff."

—Howard Lefkowitz, president of Internet in a Mall Inc., who is trying to bring Internet connectivity to average Joes by targeting them in their place of worship, the American Mall.

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BUGGING OUT!

"New in version 3.4.8 is a lack of new bugs introduced since the previous version." —a press release for the file management utility, File Buddy, eagerly announces the latest version's new features.

HELLO, MY NAME IS...

"Almighty webmaster,
Grant me the serenity to know when to logoff
The courage to know when to check email
and the wisdom to stay away from chat rooms"

—The Serenity Prayer for Interneters Anonymous is found at the Interneters Anonymous Web site (<http://www.itw.com/~rscott/ia.html>), one of the growing number of online support centers for Web heads addicted to the Internet.

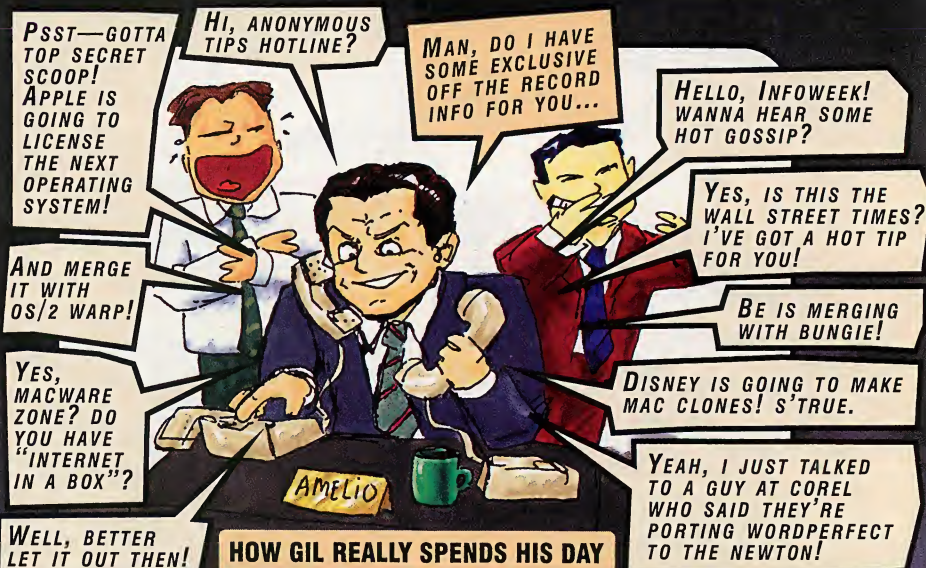


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MUSIC TO OUR EARS

"I started with some kind of DOS clone and I hated everything about it. Someone turned me on to a Mac about five years ago and I have come to realize that Windows and DOS systems were designed by Republicans to keep real people from enjoying computing."

—Howie Klein, President of Reprise Records, when asked in the Gigs & Bytes column of the October 14, "Pollstar" which computer he uses.



Doodle by Mark Simmons

Toxic or Just Tasty?

California's not-so-lush Silicon Valley, home of the silicon chip, can now claim fame for having the greatest number of hazardous waste sites (28) eligible for federal cleanup funding of any comparable area in the United States, according to the Environmental Protection Agency. Sound unhealthy? Have you ever read the back of a potato chip bag? Upon further inspection, it appears that the silicon chip and its greasy 10th cousin twice removed have several ties that bind.

Silicon Chips:

Makes these toxic byproducts: Phosphine, diborane, arsine, sulfuric acid, and nitric acid.

Used by: Computers.

Consumer gripe: Should make our computers smaller, work faster.

Industry response: Use new chemicals to invent smaller, faster chips that make even elite users drool.

Industry motto: You won't buy just one.

Lay's Baked Bar•B•Q Potato Chips:

Made with these toxic-sounding products: Lecithin, monocalcium phosphate and sodium bicarbonate, fructose, dextrose, natural smoke flavor (with peanut oil) and artificial color (Red 40 Lake).

Used by: People who don't want to ever leave their computers.

Consumer gripe: Should make us smaller, not fatter.

Industry response: Use new chemicals to invent lighter, less-fattening chips that make even Elite models drool.

Industry motto: You can't eat just one.

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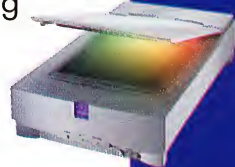
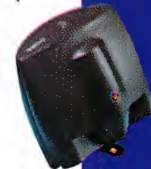
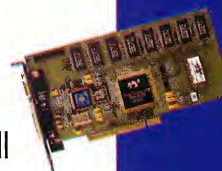
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